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- Shorten response times and avoid downtimes
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- Fast troubleshooting
- Intelligent reporting for long-term improvement
- Makes potential optimisation visible

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1 Installation

WERMA-WIN is installed first during installation. The WERMA-WIN database is then installed and set up or a connection is made to an existing database.

- Administrator rights are needed to install WERMA-WIN. No administrator rights are needed to use WERMA-WIN.

- The WERMA-WIN Client can be installed, refreshed and uninstalled unattended. For information about this, refer to the Docs subdirectory in the installation directory of the server application.

1.1 Installing WERMA-WIN

1. Make sure that the necessary system requirements are met.
3. Extract the downloaded ZIP file.
4. Double-click on the WERMA-WIN-x-x-x-xxxx.exe file to start the installation.
   → The installation wizard starts.

   ![Werma-Win Installation Wizard]

   5. Follow the instructions in the installation wizard.
   → Once the installation assistant has ended, the assistant to install the WERMA-WIN database appears.
Please select...

- **Install database**
  - Install the WERMA-WIN database and Server Service on this PC (1 x per network)

- **Connect to existing database**
  - Connect to an existing database and Server Service via a WERMA Link File

***IT expert installation***
Further installation options
1.2 Installing the WERMA-WIN database

There are three options available to you to install the WERMA-WIN database.

**Install the database locally:**
- The WERMA-WIN database is installed locally on the PC on which WERMA-WIN is installed.

**Connect to existing database:**
- A connection to an existing WERMA-WIN database is established using a link file previously installed.

**IT expert installation:**
- Establishment of a connection to a WERMA-WIN database on another desktop PC.
- Establishment of a connection to an empty Microsoft SQL server database in the network.
- Establishment of a connection to a Microsoft SQL server database in the network already containing WERMA-WIN data.
1.2.1 Installing the database locally

To access the WERMA-WIN database, WERMA-WIN creates a user and an associated password with the following data:
- User: wermawin
- Password: Tyz19$lx50WsR3Ed7m

The WERMA-WIN 4 Server Service and the WERMA WIN 4 Connector Service are both installed when the WERMA-WIN database is installed. These services run in the background when the PC is switched on. All collected WERMA-WIN data is written to the WERMA-WIN database without WERMA-WIN running and a user being logged on.

1. Click on Install database.

2. Click on Next.
   - The WERMA-WIN database is installed locally on the PC.
   - Once the database has been installed, a window appears in which to save the link file.

3. Click on Save to save the link file.
1.2.2 Connecting to an existing database

The WERMA WIN 4 Connector Service is installed when connecting to the existing WERMA-WIN database. This service runs in the background when the PC is switched on. All collected WERMA-WIN data from the connected WIN master is written to the WERMA-WIN database without WERMA-WIN running and a user being logged on.

1. Click on **Connect to existing database**.

![Connect to existing database]

2. Click on **Next**.
3. Open the link file.
   ➔ The installation wizard checks the connection settings and establishes the connection to the existing WERMA-WIN database.

The link file lets you connect other workplaces to the WERMA-WIN database.

1.2.3 IT expert installation

1. Click on **IT expert installation**.
   ➔ The **WERMA-WIN database setup** window appears.
IT expert installation offers the following options:

- Use of the database that has been installed by WERMA-WIN
- Use of a newly created empty Microsoft SQL server database
- Use of a Microsoft SQL server database with WERMA-WIN files

1.2.3.1 Use of a database that has been installed by WERMA-WIN

1. Select A database that has been installed by WERMA-WIN option.
2. Click on Next.
3. In the **Server name** field, enter the name of the server on which the WERMA-WIN database has been installed.

   - The server name can be found in the WERMA-WIN link file (.wde) saved when installing the WERMA-WIN database.

4. Click on **Next**.

5. Select whether the **WERMA WIN 4 Server Service** is to be installed on this computer or whether you wish to establish a connection to an existing server service.

**Installing the WERMA WIN 4 Server Service**

- If the **WERMA WIN 4 Server Service** is to be installed on this computer:

  1. Select **Install the Server Service on this PC** option.

  2. You may need to change the server service TCP port in the **TCP port** field.

  3. Click on **Next**.

     - The connection to the WERMA-WIN database is created.
Connection to an existing server service

If a connection is to be made to an existing server service:

1. Select **Connect to the following Server Service** option.

2. In the **Server name** field, enter the name of the server on which the server service has been installed.

3. Enter the server service TCP port in the **TCP-Port** field.

4. Click on **Next**.
   → The connection to the WERMA-WIN database is created.

The **WERMA WIN 4 Connector Service** is installed during installation. This service runs in the background when the PC is switched on. All collected WERMA-WIN data from the connected WIN master is written to the WERMA-WIN database without WERMA-WIN running and a user being logged on.

### 1.2.3.2 Using a newly created empty Microsoft SQL server database

**Requirements:**

- An empty database has been set up on the Microsoft SQL server.
- A corresponding database user is linked to the database login.
- The database meets the following requirements:

<table>
<thead>
<tr>
<th>Compatible from</th>
<th>Microsoft SQL Server 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommendation</td>
<td>Microsoft SQL Server 2014</td>
</tr>
<tr>
<td>Collation</td>
<td>Latin1_General_CI_AS</td>
</tr>
<tr>
<td>Role membership</td>
<td>db_datareader</td>
</tr>
<tr>
<td></td>
<td>db_datawriter</td>
</tr>
<tr>
<td></td>
<td>db_dmladmin or db_owner</td>
</tr>
</tbody>
</table>

1. Select **A newly created empty Microsoft SQL server database** option.

2. Click on **Next**.
3. Enter the access data for the empty database in the appropriate fields.

You do not have to complete the **Instance name** field.

4. Click on **Next**.
5. Select whether the **WERMA WIN 4 Server Service** is to be installed on this computer or whether you wish to establish a connection to an existing server service.

**Installing the WERMA WIN 4 Server Service**

If the **WERMA WIN 4 Server Service** is to be installed on this computer:

1. Select **Install the Server Service on this PC** option.

   ![Install the Server Service on this PC](image)

   **TCP Port** field:
   
   2. You may need to change the server service TCP port in the **TCP Port** field.
   3. Click on **Next**.

   → The connection to the database is created.

**Connection to an existing server service**

If a connection is to be made to an existing server service:

1. Select **Connect to the following Server Service** option.

   ![Connect to the following Server Service](image)

   **Server name** field:
   
   2. In the **Server name** field, enter the name of the server on which the server service has been installed.
   3. Enter the server service TCP port in the **TCP-Port** field.
   4. Click on **Next**.

   → The connection to the database is created.

---

**1.2.3.3 Using a Microsoft SQL server database with WERMA-WIN files**

1. Select **Microsoft SQL server database with WERMA-WIN data** option.
2. Click on **Next**.
3. Enter the access data for the empty database in the appropriate fields.

You do not have to complete the **Instance name** field.

4. Click on **Next**.
5. Select whether the WERMA WIN 4 Server Service is to be installed on this computer or whether you wish to establish a connection to an existing server service.

**Installing the WERMA WIN 4 Server Service**

If the WERMA WIN 4 Server Service is to be installed on this computer:

1. Select **Install the Server Service on this PC** option.

2. You may need to change the server service TCP port in the **TCP port** field.

3. Click on **Next**. → The connection to the WERMA-WIN database is created.

**Connection to an existing server service**

If a connection is to be made to an existing server service:

1. Select **Connect to the following Server Service** option.

2. In the **Server name** field, enter the name of the server on which the server service has been installed.

3. Enter the server service TCP port in the **TCP-Port** field.

4. Click on **Next**. → The connection to the WERMA-WIN database is created.

---

The WERMA WIN 4 Connector Service is installed during installation. This service runs in the background when the PC is switched on. All collected WERMA-WIN data from the connected WIN master is written to the WERMA-WIN database without WERMA-WIN running and a user being logged on.
1.3 Firewall configuration

All necessary port enables are configured in the Windows firewall by default when WERMA-WIN is installed. If you are using additional firewall or network products, it may be necessary to adapt them manually.

1. Make sure that the following network connections are not blocked:

<table>
<thead>
<tr>
<th>Source</th>
<th>Destination</th>
<th>Type</th>
<th>Port</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server</td>
<td>Microsoft SQL Server</td>
<td>UDP/TCP</td>
<td>–</td>
<td>WERMA recommends allowing all network connections for sqlservr.exe and sqlbrowser.exe in the Microsoft SQL Server Installation. Refer to the administration manual for the Microsoft SQL server for a different configuration.</td>
</tr>
<tr>
<td>Client</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Server</td>
<td>WIN ethernet master</td>
<td>TCP</td>
<td>9710*</td>
<td>Database connection to the <strong>WERMA WIN 4 Server Service</strong></td>
</tr>
<tr>
<td>Client</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Server</td>
<td>WIN ethernet master</td>
<td>UDP broadcast</td>
<td>5000</td>
<td>Retrieval of device information</td>
</tr>
<tr>
<td>Client</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Server</td>
<td>External mail server</td>
<td>TCP</td>
<td>25*</td>
<td>Mail sent by SMTP to the configured server</td>
</tr>
<tr>
<td>Client</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Server</td>
<td><a href="http://www.werma-win.com">www.werma-win.com</a>**</td>
<td>TCP</td>
<td>443</td>
<td>Mail sent using the integrated mail function. Configuration of a web proxy is possible.</td>
</tr>
<tr>
<td>Client</td>
<td><a href="http://www.werma.win.com">www.werma.win.com</a>**</td>
<td>TCP</td>
<td>80</td>
<td>Update testing, retrieval of the Online Help and Contact site</td>
</tr>
</tbody>
</table>

* Can be configured differently in WERMA-WIN on commissioning of the WERMA-WIN devices.
** We recommend enabling access to other subdomains for future updates of WERMA-WIN.

1.4 Manual driver installation

Manual driver installation is only required if the device driver software has not been automatically installed during connection of a WERMA-WIN device.
1. Open Device Manager.

→ The Device Manager window appears.
2. Right-click WIRELESS DEVICE.

3. Select Update driver in the pop-up menu.

4. Click Browse my computer for driver software.
5. Click on **Browse**.
6. Navigate to the WERMA-WIN installation directory and open the **Driver** folder.
7. Click on **Next**.
   → The device drivers are installed.

8. Once successfully installed, click on **Close** to close the hardware wizard.
   → The WERMA-WIN device is now ready for operation.
2 Activating WIN devices

WIN master or WIN ethernet master must be connected to a PC and configured before WERMA-WIN data from the signal towers can be received. WIN slaves should then be configured and assigned to a WIN master or WIN ethernet master.

2.1 WIN master

1. Click on Activation in the toolbar.

2. Click on Commission WIN master.
3. Connect WIN master to the PC and click on Search.  
   → WERMA-WIN searches for the connected WIN master.

4. Once WIN master has been recognised, click on Next.

   A message appears if a new firmware version is available. Click Yes to install the new firmware version.
5. Enter the description of the WIN master in the **Name** field.

- The transmission channel of the individual systems can be changed to enable the best possible radio connection when several WERMA-WIN systems are run in parallel. WERMA recommends only operating one WIN master per transmission channel.

6. Select another transmission channel in the **Channel** selection list if necessary.

7. Click on **Next**.
   → The configuration is transferred to the WIN master.

### 2.2 WIN ethernet master

1. Click on **Activation** in the toolbar.
2. Click on **Start up WIN master**.

3. Use the USB cable to connect WIN ethernet master to the computer and click on **Search**. 
   → WERMA-WIN searches for the connected WIN ethernet master.
4. After WIN ethernet master has been recognised, click on Next.

A message appears if a new firmware version is available. Click Yes to install the new firmware version.

5. Enter the description of the WIN ethernet master in the Name field.

The transmission channel of the individual systems can be changed to enable the best possible radio connection when several WERMA-WIN systems are run in parallel.

WERMA recommends only operating one WIN master per transmission channel.
6. Select another transmission channel in the **Channel** selection list if necessary.

7. Click on **Next**.

There are three options available to connect to the network:

- **Automatically obtain an IP address via DHCP**
- **Use a static IP address**
- **Advanced network configuration**

The **Advanced network configuration** must be used in the following cases:

- The WIN ethernet master and WERMA-WIN server service are in the same sub-network.
- UDP broadcast is not allowed.
- A static IP address should not be assigned.

### 2.2.1 Automatically obtaining an IP address via DHCP

1. Select **Automatically obtain an IP address via DHCP** option.

2. Click on **Next**.
   - The configuration is transferred to the WIN ethernet master.
   - The configuration has been successfully completed.
3. Now choose whether you wish to perform further configuration or exit configuration.
4. Click on Next.

2.2.2 Using a static IP address

1. Select Use the following static IP address option.

2. Enter the network data into the corresponding fields.
Your network administrator will provide the requisite data.

3. Click on **Next**.
   - The configuration is transferred to the WIN ethernet master.
   - The configuration has been successfully completed.

4. Now choose whether you wish to perform further configuration or exit configuration.

5. Click on **Next**.

### 2.2.3 Advanced network configuration

1. Select **Use the following static IP address** option.
2. Enter the network data into the corresponding fields.

- Your network administrator will provide the requisite data.

3. Enable **Advanced network configuration**.

4. Click on **Next**.

5. Enter the IP address or DNS name of WIN ethernet master in the **IP / DNS name** field.

6. You may need to change the TCP port in the **TCP-Port** field.
7. Click on Next.
   → The configuration has been successfully completed.

8. Now choose whether you wish to perform further configuration or exit configuration.
9. Click on Next.

2.3 WIN slave

1. Start WERMA-WIN.
2. Use the USB cable to connect WIN slave to the PC.

→ The Commissioning window appears.
3. Click on **Search** if WIN slave has not automatically been found.
   → WERMA-WIN searches for the connected WIN slave.

4. Once WIN slave has been recognised, click on **Next**.

5. Enter the description of the WIN slave in the **Name** field.

6. Configure WIN slave in the **Signal tower** and **Blink recognition** tabs.

7. Assign WIN slave in the selection list **Assign the device to the following WIN master** to a WIN master.

8. Click on **Next**.
   → The configuration has been successfully completed.
9. Now choose whether you wish to perform further configuration or stop configuration.
10. Click on Next.
11. Disconnect the USB connection from the WIN slave.
   → The WIN slave is configured and can be fitted on the signal tower.

2.4 WIN slave performance

1. Start WERMA-WIN.
2. Use the USB cable to connect WIN slave performance to the PC.

→ The Commissioning window appears.
3. Click on **Search** if WIN slave performance has not automatically been found.
   → WERMA-WIN searches for the connected WIN slave performance.

4. Once WIN slave performance has been recognised, click on **Next**.

5. Enter the description of the WIN slave performance in the **Name** field.

6. Configure WIN slave performance in the **Signal tower** and **Blink recognition** tabs.

7. Assign WIN slave performance in the selection list **Assign the device to the following WIN master** to a WIN master.

8. Click on **Next**.
   → The configuration has been successfully completed.
9. Now choose whether you wish to perform further configuration or stop configuration.

10. Click on **Next**.

11. Disconnect the USB connection from the WIN slave.
   → The WIN slave performance is configured and can be fitted on the signal tower.

### 2.5 WIN slave control

1. Start WERMA-WIN.

2. Use the USB cable to connect WIN slave control to the PC.

   → The **Commissioning** window appears.
3. Click on Search if WIN slave control has not automatically been found.  
   \[\rightarrow\] WERMA-WIN searches for the connected WIN slave control.

4. Once WIN slave control has been recognised, click on Next.

5. Enter the description of the WIN slave control in the Name field.

6. Configure WIN slave control in the Signal tower and Blink recognition tabs.

7. Assign WIN slave control in the selection list Assign the device to the following WIN master to a WIN master.

8. Click on Next.
9. Configure the switching status of the individual tiers in the respective selection lists.

The switching status is enabled as soon as power is supplied to the WIN slave control.

10. Click on Next.

11. Select the switching condition of the WIN slave control.

12. Click on Next.

→ The configuration has been successfully completed.
13. Now choose whether you wish to perform further configuration or stop configuration.

14. Click on **Next**.

15. Disconnect the USB connection from the WIN slave.
   - The WIN slave control is configured and can be fitted on the signal tower.

### 2.6 Changing transmission channel

The transmission channel of the individual systems can be changed to enable the best possible radio connection when several WERMA-WIN systems are run in parallel. Four different transmission channels are available.

> WERMA recommends only operating one WIN master per transmission channel.

1. Click on **Activation** in the toolbar.
   - The **Activation** window appears.
2. Click on **Change transmission channel**.  
   → The **Activation** window appears.

3. **WIN master** or start up **WIN ethernet master** again.

4. Select the preferred transmission channel in the **Channel** dropdown list during activation.

**Note:** WIN slave must be reconfigured if the WIN master transmission channel is changed after WIN slave has been configured.
2.7 Firmware update

1. Click on Activation in the toolbar.
   → The Activation window appears.

2. Click on Firmware update.

3. Read the information text and click on Next.
   → The wizard for activation of a WERMA-WIN device appears.
4. WIN master or start up WIN ethernet master again.

5. During activation, confirm the firmware update message with Yes.
   -> The Firmware update window appears.

6. Click Start update.
   -> The firmware is updated.

2.8 Swapping WIN master and WIN ethernet master

A WIN master can be replaced by a WIN ethernet master. A wizard can be used to transmit all the WIN slaves assigned to the WIN master to the WIN ethernet master.

1. Click on Activation in the toolbar.
   -> The Activation window appears.
2. Click on **Swap WIN master (USB) and WIN ethernet master.**
   → The **Activation** window appears.

3. Connect WIN master and WIN ethernet master to the computer.

4. Click **Search.**
   → WERMA-WIN searches for the connected WIN master and WIN ethernet master.
5. Once WIN master has been recognised, click on Next.
   → WIN master and WIN ethernet master are swapped.

6. Once they have been successfully swapped, amend or strike through the MAC addresses printed on the type labels.

7. Click on Next to complete the swap and check the configuration of the WIN ethernet master.
8. Check the configuration of the WIN ethernet master and adapt if necessary.

9. Click on **Next** to save the configuration.
   → The swap has been successfully completed.

10. Now choose whether you wish to perform further configuration or exit configuration.

11. Click on **Next**.
3 Program functions

WERMA-WIN is subdivided into six main modules:
– Control station
– Productivity
– Runtime
– Job
– Control
– Routing

3.1 Control station

The statuses and job details of up to 50 machines, systems and workplaces are displayed in an overview in the Control station module. The overview shows which machine is running or has a fault. This enables reaction times and downtimes to be effectively shortened.

The job details show how far the jobs have progressed on the individual machines.

The position of a machine can be easily identified by the integration of a building plan into the Control station module.

3.1.1 Control station display

The control station display of the WIN slave shows the status of the respective signal tower or machine and enables the WIN slaves to be configured.
### 3.1.1.1 WIN slave

The control station display of the WIN slave includes the following information:

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Enable, disable and set up status transmission</td>
</tr>
<tr>
<td>2</td>
<td>Enable, disable and set up status change message option</td>
</tr>
<tr>
<td>3</td>
<td>Edit WIN slave configuration</td>
</tr>
<tr>
<td>4</td>
<td>Current shift if a shift is assigned to the machine. &lt;Pause&gt; is displayed if there is a pause in the shift.</td>
</tr>
<tr>
<td>5</td>
<td>Representation of the statuses of tiers</td>
</tr>
<tr>
<td>6</td>
<td>Name of the WIN slave</td>
</tr>
</tbody>
</table>

### 3.1.1.2 WIN slave performance with running job

The control station display of a WIN slave performance with running job includes the following information:
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hover function for additional job details</td>
</tr>
<tr>
<td></td>
<td>- <strong>Job number</strong>: Job number of the job</td>
</tr>
<tr>
<td></td>
<td>- <strong>Plan quantity</strong>: Job quantity of the job</td>
</tr>
<tr>
<td></td>
<td>- <strong>Remaining quantity</strong>: Quantity until the end of the job</td>
</tr>
<tr>
<td></td>
<td>- <strong>Net remaining runtime</strong>: Time until the end of the job excluding pauses</td>
</tr>
<tr>
<td></td>
<td>- <strong>Gross remaining runtime</strong>: Time until the end of the job including pauses</td>
</tr>
</tbody>
</table>

As soon as the plan quantity has been reached with a job that does not stop automatically, a corresponding message appears in the additional job details:

"Additional job details appear as soon as the cursor hovers over the job progression (7)."
3.1.1.3 WIN slave performance without running job

The control station display of a WIN slave performance without running job includes the following information:

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>No running job</strong> information</td>
</tr>
<tr>
<td>2</td>
<td><strong>Enter new job or series job</strong></td>
</tr>
<tr>
<td>3</td>
<td>Reset counter value</td>
</tr>
<tr>
<td>4</td>
<td>Current quantity without plan specification</td>
</tr>
<tr>
<td>5</td>
<td>Enable, disable and set up status transmission</td>
</tr>
<tr>
<td>6</td>
<td>Enable, disable and set up status change message option</td>
</tr>
<tr>
<td>7</td>
<td>Edit WIN slave configuration</td>
</tr>
</tbody>
</table>
| 8    | **Current shift** if a shift is assigned to the machine.  
**<Pause>** is displayed if there is a pause in the shift. |
| 9    | Representation of the statuses of tiers |
| 10   | Name of the WIN slave |
3.1.1.4 **WIN slave control**

The control station display of the WIN slave control includes the following information:

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Enable, disable and set up status transmission</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Status transmission is disabled." /> Status transmission is disabled.</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Status transmission is enabled." /> Status transmission is enabled.</td>
</tr>
<tr>
<td>2</td>
<td>Enable, disable and set up status change message option</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Status change message option is disabled." /> Status change message option is disabled.</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Status change message option is enabled." /> Status change message option is enabled.</td>
</tr>
<tr>
<td>3</td>
<td>Edit WIN slave configuration</td>
</tr>
<tr>
<td>4</td>
<td>Current shift if a shift is assigned to the machine.</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Pause" /> &gt; is displayed if there is a pause in the shift.</td>
</tr>
<tr>
<td>5</td>
<td>Representation of the statuses of tiers</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Tier can be switched manually" /> Tier can be switched manually</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Tier is controlled with a switching rule" /> Tier is controlled with a switching rule</td>
</tr>
<tr>
<td>6</td>
<td>Name of the WIN slave</td>
</tr>
</tbody>
</table>

### 3.1.2 Views

The **Control station main view** or a user-defined view can be used in the **Control station** module.

#### 3.1.2.1 Control station main view

The **Control station main view** gives an overview of all WIN slaves that have been configured. The **Control station main view** can be provided with a background image.
3.1.2.2 User-defined views

Additional user-defined views can be created in addition to the Control station main view. The user-defined views can be named as required and be provided with a background image. Different WIN slaves can be displayed in every user-defined view.

---

The user-defined views of the Control station, Productivity and Runtime modules are always identical. All view settings are applied.
Naming a user-defined view

1. Click on Settings in the toolbar. → The Settings window appears.
2. Select the Views tab.
3. Highlight the required view.
4. Click on Edit. → The Edit view window appears.
5. Enter the name of the view in the Name field.
6. Click on OK. → The name of the view has been changed.
7. Click OK to apply the settings.

Adding WIN slave to a view

1. Call up the required view.
2. Click on Add WIN slave. → The Select WIN slave window appears.
3. Highlight the required WIN slave.
4. Click on OK. → The WIN slave has been added to the view.

Deleting WIN slave from the view

1. Call up the required view.
2. Right-click on the WIN slave to be deleted.
3. Select Remove in the pop-up menu.
4. Confirm the prompt with Yes.  
   → The WIN slave has been deleted from the view.

3.1.2.3 Selecting the background image of a view

1. Call up the required view.
2. Click on Select background.  
   → The Background image window appears.
3. Select Following option.
4. Click on Browse and open the required background image.

   The background image needs to be saved on the local PC.  
   If more than one computer is accessing a WERMA-WIN database, then the background image must be saved on a network drive.

5. Select As original option to paste the background image in its original size.
6. Select Zoom out / zoom in option to paste the background image scaled.

   Clicking on Preview allows a preview of the background image to be displayed.
7. Click on Save to paste the background image into the view.
3.1.2.4 Removing the background image

1. Call up the required view.
2. Click on Select background.
   → The Background image window appears.

3. Select No background image option.
4. Click on Save to paste the background image into the view.

- or -
1. Call up the required view.
2. Right-click in the view.
3. Select Remove Background.

3.1.2.5 Repositioning a WIN slave

Every WIN slave can be repositioned anywhere in the view.

1. Left-click on the name of the WIN slave and hold down the mouse key.

2. Drag the WIN slave to the desired position and release the mouse key.

3.1.2.6 Full-screen mode

Every view can be displayed in full screen and without the menu bar.
1. Call up the required view.
2. Click on Full screen in the menu bar.

To exit the full screen view:
1. Press ESC.

3.1.3 Configuration of the WERMA-WIN devices

Every WIN slave can be individually named and configured in accordance with the scope of its functions.

3.1.3.1 Configuring WIN slave

1. Click on Edit WIN slave in the control station display of the desired WIN slave.
   → The WIN slave configuration window appears.

2. Configure the following settings:
   – Name of the WIN slave
   – Tiers and colours of the signal tower
   – Blink recognition
   – Shift assignment
   – Representation of the WIN slave

3. Once configuration has been completed, click on OK to save the settings.

Modifying the name

Every WIN slave can be individually named.

1. Enter the name of the WIN slave in the Name field.
Modifying the tiers and colours of the signal tower

The tiers and colours can be modified on the signal tower installed. A productive state can be defined, if required, for every tier and the statuses Off and Connection error. The productive statuses are evaluated in the Productivity module.

1. Select the Signal tower tab.

2. Define a **Description** and **Colour/Function** for the tiers of the WIN slave.

   A user-defined description can be entered in the **Description** selection list. As soon as the configuration of the WIN slave has been saved, this user-defined description can be called up again using the selection list.

   If a user-defined description is no longer used, it will not be displayed in the selection list any longer. Consequently, it is possible to delete misspelt or incorrectly created names (for example, material, mterial) from the selection list.

Selecting productive states

To define the productive states of the tiers:

1. Select check box **Select productive state**.

2. The **Productive** column to select the productive states is shown.

3. Define productive states for the tiers of the WIN slave.

   The productive states are calculated in the evaluation based on the following priority:
   - Non productive
   - Productive
   - Do not analyse
   - Undefined
Modifying blink recognition

If the signal tower installed has a blinking function, it can be evaluated using blink recognition. A productive status can be defined for every tier. The productive statuses are evaluated in the Productivity module.

Blink recognition detects blinking signals between 15 Hz and 0.8 Hz switching frequency generated by a machine or control (e.g. via the PLC).

1. Select the Blink recognition tab.

2. Enable or disable the Blink recognition checkbox to enable or disable blink recognition for the individual tiers of the WIN slave.

3. Defining a Description for the tiers of the WIN slave.

A user-defined description can be entered in the Description selection list. As soon as the configuration of the WIN slave has been saved, this description can be called up again using the selection list.

Selecting productive states

To define the productive states of the tiers:

1. Select check box Select productive state. → The Productive column to select the productive states is shown.

2. Define productive states for the tiers of the WIN slave.

The productive states are calculated in the evaluation based on the following priority:
- Non productive
- Productive
- Do not analyse
Shift assignment
One or more shifts can be assigned to each WIN slave.

Assigning shifts

1. Select the Shift assignment tab.

2. Click on Edit.

3. Double-click on the shift or shifts to be assigned to WIN slave in the Available shifts area.

   Shifts can only be assigned if their time periods do not overlap.
   If the time period of a shift in the Available shifts column overlaps with the time period of a shift already assigned in the Assigned shifts column, then the shift is disabled in the Available shifts column.

4. Click on OK to save the settings.

Canceling a shift assignment

1. Select the Shift assignment tab.
2. Click on **Edit**.

3. Double-click on the shift or shifts, the assignment of which is to be cancelled in the **Assigned shifts** area.

4. Click on **OK** to save the settings.

   **Tip**: Shifts whose assignment has been cancelled can be shown by enabling **Display historical assignments**.

---

**Modifying the control station display**

The control station display of the WIN slave can be modified.

1. Select the **Design** tab.

2. Select the display version of the WIN slave.

3. If necessary, select the size of the control station display in the **Size** selection list.
If you have selected a display version with **individual light** and the signal tower displays two states, the control station display automatically switches to the **signal tower without text** display version.

### 3.1.3.2 Configuring WIN slave control

1. Click on **Edit WIN slave** in the control station display of the desired WIN slave control.  
   → The **WIN slave configuration** window appears.

![WIN slave configuration window](image)

2. Configure the following settings:
   - Name of the WIN slave control
   - Tiers and colours of the signal tower
   - Blink recognition
   - Shift assignment
   - Control station display of the WIN slave control

3. Once configuration has been completed, click on **OK** to save the settings.

### Modifying the name

Every WIN slave control can be individually named.

1. Enter the name of the WIN slave control in the **Name** field.

![Name field](image)

### Modifying the tiers and colours of the signal tower

The tiers and colours can be modified on the signal tower installed. A productive state can be defined, if required, for every tier and the statuses **Off** and **Connection error**. The productive statuses are evaluated in the **Productivity** module.

1. Select the **Signal tower** tab.
2. Define a **Description** and **Colour/Function** for the tiers of the WIN slave control.

![Image](Image)  

![Image](Image)

![Image](Image)

A user-defined description can be entered in the **Description** selection list. As soon as the configuration of the WIN slave control has been saved, this user-defined description can be called up again using the selection list.

If a user-defined description is no longer used, it will not be displayed in the selection list any longer. Consequently, it is possible to delete misspelt or incorrectly created names (for example, *material*, *mterial*) from the selection list.

**Selecting productive states**

To define the productive states of the tiers:

1. Select check box **Select productive state**.
2. The **Productive** column to select the productive states is shown.
3. Define productive states for the tiers of the WIN slave control.

The productive states are calculated in the evaluation based on the following priority:

- Non productive
- Productive
- Do not analyse
- Undefined

**Modifying blink recognition**

Blink recognition is enabled by default for all tiers with the WIN slave control. Blink recognition can be used with the **manual control** function or with the definition of a **switching rule**.

A productive status can be defined for every tier. The productive states are evaluated in the **Productivity** module.
The blink signal is transmitted to the signal tower and the terminals at a switching frequency of 1 Hz.

1. Select the **Blink recognition** tab.

![Blink recognition tab](image)

2. Enable or disable the **Blink recognition** checkbox to enable or disable blink recognition for the individual tiers of the WIN slave control.

3. Defining a **Description** for the tiers of the WIN slave control.

A user-defined description can be entered in the **Description** selection list. As soon as the configuration of the WIN slave control has been saved, this description can be called up again using the selection list.

**Selecting productive states**

To define the productive states of the tiers:

1. Select check box **Select productive state**. → The **Productive** column to select the productive states is shown.

![Productive column](image)

2. Select productive states for the tiers of the WIN slave control.

The productive states are calculated in the evaluation based on the following priority:

- Non productive
- Productive
- Do not analyse
- Undefined

**Shift assignment**

One or more shifts can be assigned to each WIN slave control.
Assigning shifts

1. Select the **Shift assignment** tab.

2. Click on **Edit**.

3. Double-click on the shift or shifts to be assigned to WIN slave control in the *Available shifts* area.

   ![Available shifts](image)

   _Shifts can only be assigned if their time periods do not overlap._

   If the time period of a shift in the *Available shifts* column overlaps with the time period of a shift already assigned in the *Assigned shifts* column, then the shift is disabled in the *Available shifts* column.

4. Click on **OK** to save the settings.

** Cancelling a shift assignment**

1. Select the **Shift assignment** tab.
2. Click on Edit.

3. Double-click on the shift or shifts, the assignment of which is to be cancelled in the **Assigned shifts** area.

4. Click on **OK** to save the settings.

---

Shifts whose assignment has been cancelled can be shown by enabling **Display historical assignments**.

---

**Modifying the control station display**

The control station display of the WIN slave control can be modified.

---

The **manual control** function is only possible in the **Signal tower with text** display version.

---

1. Select the **Design** tab.

2. Select the display version of the WIN slave control.

3. If necessary, select the size of the control station display in the **Size** selection list.

---

If you have selected a display version with **Individual light** and the signal tower displays
two states, the control station display automatically switches to the **Signal tower without text** display version.

### 3.1.3.3 Configuring WIN slave performance

1. Click on **Edit WIN slave** in the control station display of the desired WIN slave performance. → The **WIN slave configuration** window appears.

![WIN slave configuration window](image)

2. Configure the following settings:
   - Name of the WIN slave performance
   - Tiers and colours of the signal tower
   - Blink recognition
   - Shift assignment
   - Control station display of the WIN slave performance

3. Once configuration has been completed, click on **OK** to save the settings.

#### Modifying the name

Every WIN slave performance can be individually named.

1. Enter the name of the WIN slave performance in the **Name** field.

#### Modifying the tiers and colours of the signal tower

The tiers and colours can be modified on the signal tower installed. A productive state can be defined, if required, for every tier and the statuses **Off** and **Connection error**. The productive statuses are evaluated in the **Productivity** module.

1. Select the **Signal tower** tab.
2. Define a **Description** and **Colour/Function** for the tiers of the WIN slave.

A user-defined description can be entered in the **Description** selection list. As soon as the configuration of the WIN slave has been saved, this user-defined description can be called up again using the selection list.

If a user-defined description is no longer used, it will not be displayed in the selection list any longer. Consequently, it is possible to delete misspelt or incorrectly created names (for example, **material, material**) from the selection list.

The **Counter input** and **Job input** functions can each only be defined for one tier.

The maximum counter frequency of the counter input is 10 Hz (}> 50 ms 24 V – > 50 ms 0 V).

The **Counter input** function was assigned to a tier during activation of the WIN slave performance. If the **Counter input** function is to be assigned to another tier, you must connect the WIN slave performance to the PC using the USB cable to transfer the modified configuration.

The pulse at the tier configured for the **Job input** function must be applied for at least five seconds. The first pulse starts the job and the second pulse completes the job. If you have already created another job as **active waiting**, it can be started with a further pulse.

The pulse can also be applied for the whole duration of the job. Then the pulse must be inactive for at least five seconds so that a further pulse ends the job.

**Selecting productive states**

To define the productive states of the tiers:
1. Select check box **Select productive state**.

2. The **Productive** column to select the productive states is shown.

![Image of the product table]

3. Define productive states for the tiers of the WIN slave performance.

   - The productive states are calculated in the evaluation based on the following priority:
     - Non productive
     - Productive
     - Do not analyse
     - Undefined

**Modifying blink recognition**

If the signal tower installed has a blinking function, it can be evaluated using blink recognition. A productive status can be defined for every tier. The productive statuses are evaluated in the **Productivity** module.

- **Blink recognition** detects blinking signals between 15 Hz and 0.8 Hz switching frequency generated by a machine or control (e.g. via the PLC).

1. Select the **Blink recognition** tab.

![Image of the blink recognition tab]

2. Enable or disable the **Blink recognition** checkbox to enable or disable blink recognition for the individual tiers of the WIN slave performance.

3. Defining a **Description** for the tiers of the WIN slave performance.

   - A user-defined description can be entered in the **Description** selection list. As soon as the configuration of the WIN slave performance has been saved, this description can be called up again using the selection list.
Selecting productive states

To define the productive states of the tiers:

1. Select check box **Select productive state**. → The **Productive** column to select the productive states is shown.

2. Define productive states for the tiers of the WIN slave performance.

   The productive states are calculated in the evaluation based on the following priority:
   - Non productive
   - Productive
   - Do not analyse
   - Undefined

Shift assignment

One or more shifts can be assigned to each WIN slave performance.

Assigning shifts

1. Select the **Shift assignment** tab.

2. Click on **Edit**.
3. Double-click on the shift or shifts to be assigned to WIN slave performance in the Available shifts area.

ℹ️ Shifts can only be assigned if their time periods do not overlap.
If the time period of a shift in the Available shifts column overlaps with the time period of a shift already assigned in the Assigned shifts column, then the shift is disabled in the Available shifts column.

4. Click on OK to save the settings.

**Canceling a shift assignment**

1. Select the Shift assignment tab.

2. Click on Edit.
3. Double-click on the shift or shifts, the assignment of which is to be cancelled in the **Assigned shifts** area.

4. Click on **OK** to save the settings.

**Shifts** whose assignment has been cancelled can be shown by enabling **Display historical assignments**.

**Modifying the control station display**

The control station display of the WIN slave performance can be modified.

1. Select the **Design** tab.

2. Select the display version of the WIN slave performance.

3. If necessary, select the size of the control station display in the **Size** selection list.

If you have selected a display version with **Individual light** and the signal tower displays two states, the control station display automatically switches to the **Signal tower without text** display version.
3.1.4 Resetting the quantity counter

Quantities can be counted without or with job with every WIN slave performance. The counter can only be reset when counting without a job.

1. In the control station display of the WIN slave performance, click on Reset counter.
2. Confirm the prompt with Yes to reset the quantity counter.
   → The counter has been reset.

3.1.5 Manual control

Every WIN slave control can be switched or controlled manually or via a Switching rule.

1. Click on Switch beside the tier to be switched.
   → The menu to select the switching status appears.

2. Select the switching status of the tier.
   → The tier of the signal tower is switched and displayed in the control station display.

   Tiers that can be controlled with a switching rule (�) cannot be manually controlled.

   The Blinking status is only available if the Blink recognition of the tier is enabled.

   The Switch symbol can flicker during transmission of the switching status. As soon as the transmission of the WIN slave control has been confirmed, the symbol changes to a permanent representation.

3.1.6 Status change message

If the status change message of a WIN slave is enabled, a pop-up window appears when the status of the signal tower is changed. This allows you to minimise the WERMA-WIN program window without neglecting to monitor the machines.

It is possible for define for each tier whether and when a pop-up window appears (e.g. Tier on, Tier off, Connection error).
1. Click on **Status change message option deactivated** in the control station display of the WIN slave.
   → The **Status Change Message** window appears.

2. Define for each tier in the **Tier status** selection menu whether and at what status a pop-up window is to be displayed.

   ![Status Change Message window](image)

   A status change message can be generated for a tier with the function **Counter input** with the WIN slave performance.

3. Click on **OK** to save the settings.
4. Define the **Time delay**.

   ![Status Change Message window](image)

   The pop-up window only appears when the new status is unchanged during the defined **Time delay**. No pop-up window appears if the status has changed again within the **Time delay**.

5. Click on **OK** to save the settings.
   → The status change message has been enabled.
The Status change message option activated symbol 📣 appears in the control station display of WIN slave.

An individual sound can be defined under Settings for the status change message.

### 3.1.7 Status transmission

If the status transmission of a WIN slave is active, an e-mail is sent to one or more recipients when the status of the signal tower changes. This enables WERMA-WIN to be run on an unattended PC or server without neglecting to monitor the machines.

It is possible to define for each tier whether and when a pop-up window appears (e.g. Tier on, Tier off, Connection error).

#### 3.1.7.1 WIN slave and WIN slave control

1. In the control station display of the WIN slave or WIN slave control, click on Status transmission deactivated 🗑️.
   - The Status transmission window appears.

![Status transmission window](image)

2. Select the General tab.

3. Define for each tier in the Tier status selection menu whether and at what status a pop-up window is to be displayed.

![Tier status selection menu](image)
4. Define the **Time delay**.

![Note]

The e-mail is only sent if the new status is unchanged during the defined **Time delay**. No email is sent if the status has changed again within the **Time delay**.

5. Select the **E-mail recipient** tab.

6. Select the e-mail recipient.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>As specified in Settings</td>
<td>Send an e-mail to the recipient specified under *Settings*.</td>
</tr>
<tr>
<td>Selected recipients</td>
<td>Send an e-mail to the specified recipient(s). Multiple recipients are separated by a semi-colon (;).</td>
</tr>
<tr>
<td>Define a recipient per tier</td>
<td>Send an e-mail to the specified recipient(s) per tier. Multiple recipients are separated by a semi-colon (;).</td>
</tr>
</tbody>
</table>

7. Click on **OK** to save the settings.
   - Status transmission has been enabled.
   - In the control station display of the WIN slave or WIN slave control, the **Status transmission activated** symbol appears.

### 3.1.7.2 WIN slave performance

1. In the control station display of the WIN slave performance, click on **Status transmission deactivated**.
   - The **Status transmission** window appears.
2. Select the **General** tab.

3. Define for each tier in the **Tier status** selection menu whether and at what status a pop-up window is to be displayed.

4. Define the **Time delay**.

   - The e-mail is only sent if the new status is unchanged during the defined **Time delay**. No email is sent if the status has changed again within the **Time delay**.

5. In the **Job status** area, define whether an e-mail is also to be sent if a certain job progression is reached or when a certain quantity is reached.

6. Select the **E-Mail recipient** tab.

7. Select the e-mail recipient.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>As specified in Settings</strong></td>
<td>Send an e-mail to the recipient specified under <strong>Settings</strong>.</td>
</tr>
<tr>
<td><strong>Selected recipients</strong></td>
<td>Send an e-mail to the specified recipient(s). Multiple recipients are separated by a semi-colon (;).</td>
</tr>
<tr>
<td><strong>Define a recipient per tier</strong></td>
<td>Send an e-mail to the specified recipient(s) per tier.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Multiple recipients are separated by a semi-colon (;).</td>
<td></td>
</tr>
</tbody>
</table>

8. Click on OK to save the settings.
   → Status transmission has been enabled.
   → In the control station display of WIN slave performance, the Status transmission activated symbol appears.

### 3.1.8 Report

A report can be generated for each view. In the **Control station main view**, the report takes into account all WIN slaves. In the user-defined views, the report takes into account the WIN slaves contained in the respective view.

1. Call up the required view.
2. Click on **Report / Export** in the toolbar.
   → The Generate report window appears.

![Generate report window](image)

3. Select the required report in the **Data selection** area.
4. Click on **OK**.
   → The report is generated.
   → The Print preview for the report appears.

### 3.2 Productivity

The capacity of the machines can be analysed for any time intervals in the **Productivity** module. Work shifts, errors and downtimes can therefore be detected retrospectively, for instance for the last working day or for defined time periods.
3.2.1 Views

The Productivity main view or a user-defined view can be used in the Productivity module.

3.2.1.1 Productivity main view

The Productivity main view gives an overview of all WIN slaves that have been configured. The Productivity main view can be provided with a background image.
3.2.1.2 User-defined views

Additional user-defined views can be created in addition to the Productivity main view. The user-defined views can be named as required and be provided with a background image. Different WIN slaves can be displayed in every user-defined view.

The user-defined views of the Control station, Productivity and Runtime modules are always identical. All view settings are applied.

Adding WIN slave to a view

1. Call up the required view.
2. Click on Add WIN slave.
   → The Select WIN slave window appears.
3. Highlight the required WIN slave.
4. Click on OK.  
→ The WIN slave has been added to the view.

Deleting WIN slave from the view

1. Call up the required view.
2. Right-click on the WIN slave to be deleted.
3. Select Remove in the pop-up menu.

4. Confirm the prompt with Yes.  
→ The WIN slave has been deleted from the view.

Selecting the background image of a view

1. Call up the required view.
2. Click on Select background.  
→ The Background image window appears.

3. Select Following option.
4. Click on Browse and open the required background image.

The background image needs to be saved on the local PC.
If more than one computer is accessing a WERMA-WIN database, then the background image must be saved on a network drive.

5. Select As original option to paste the background image in its original size.
6. Select Zoom out / zoom in option to paste the background image scaled.
Clicking on **Preview** allows a **preview** of the background image to be displayed.

7. Click on **Save** to paste the background image into the view.

**Repositioning a WIN slave**

Every WIN slave can be repositioned anywhere in the view.

1. Left-click on the name of the WIN slave and hold down the mouse key.

2. Drag the WIN slave to the desired position and release the mouse key.

**3.2.1.3 Full-screen mode**

Every view can be displayed in full screen and without the menu bar.

1. Call up the required view.

2. Click on **Full screen** in the menu bar.

To exit the full screen view:

1. Press **ESC**.

**3.2.2 Productivity view**

The diagrams in the productivity display show the individual statuses of the WIN slaves. The diagrams can be shown as pie charts or as bar charts.

The displayed statuses of the WIN slaves correspond to the settings entered in the **Control station module**. The **Off** and **Connection error** statuses are also displayed. Blink recognition is shown by hatched areas in the diagram.

- The bars in the bar chart are always shown in the same order.

**Off** and **Connection error** statuses occur in the following cases:
### Status Description

<table>
<thead>
<tr>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off</td>
<td>Signal tower is off but is supplied with power.</td>
</tr>
<tr>
<td>Connection error</td>
<td>No radio connection between WIN slave and WIN master.</td>
</tr>
<tr>
<td></td>
<td><strong>WERMA WIN 4 Server Service</strong> and <strong>WERMA WIN 4 Connector Service</strong> have not started.</td>
</tr>
<tr>
<td></td>
<td>PC with WERMA-WIN database (Server PC) is switched off.</td>
</tr>
<tr>
<td></td>
<td>Microsoft SQL server cannot be accessed and there is no connection to the WERMA-WIN database.</td>
</tr>
<tr>
<td></td>
<td>There is no power supply to the WIN slave.</td>
</tr>
<tr>
<td></td>
<td>WIN master is not connected to the PC.</td>
</tr>
</tbody>
</table>

⚠️ A yellow warning triangle ![warning_triangle] indicates a signal overlap.

### 3.2.2.1 Modifying the productivity display

The time interval of the values displayed can be modified in the options bar.

The values displayed can be further filtered and modified using additional options. The following options are available:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Time interval</strong></td>
<td>Select pre-set time interval or select &lt;manually&gt; and enter the time interval in the <strong>From</strong> and <strong>Until</strong> fields.</td>
</tr>
<tr>
<td><strong>Shift</strong></td>
<td>Enter a certain shift and influence of pause times on the calculation.</td>
</tr>
<tr>
<td></td>
<td>– <strong>Do not take into account pause times</strong>: Ignore shifts entered in the calculation.</td>
</tr>
<tr>
<td></td>
<td>– <strong>Only productive times</strong>: Take shift model into account in the calculation.</td>
</tr>
<tr>
<td></td>
<td>– Single shift: Only calculate the selected shift as the time period. All times outside of the shift are calculated as pause times.</td>
</tr>
<tr>
<td><strong>Show values as a %</strong></td>
<td>Display runtime as a percentage.</td>
</tr>
<tr>
<td><strong>Hide 'Do not analyse'</strong></td>
<td>Ignore all statuses defined as <strong>Do not analyse</strong> in the WIN slave configuration and do not display them in the diagram.</td>
</tr>
<tr>
<td><strong>Analyse only job productivity</strong></td>
<td>Ignore with all WIN slave performance times without job.</td>
</tr>
<tr>
<td><strong>Analyse productive states</strong></td>
<td>Display all statuses defined as <strong>Productive</strong> and/or <strong>Non productive</strong> in the WIN slave configuration in the diagram.</td>
</tr>
<tr>
<td><strong>Bar chart</strong></td>
<td>Represent productivity in a <strong>Bar chart</strong>.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>Pie chart</td>
<td>Represent productivity in a Pie chart.</td>
</tr>
<tr>
<td></td>
<td>Update productivity display manually.</td>
</tr>
<tr>
<td></td>
<td>Enable automatic update and define the update</td>
</tr>
<tr>
<td></td>
<td>interval.</td>
</tr>
</tbody>
</table>

To modify the productivity display:

1. Select the pre-set time interval in the **Time interval** selection list or enter another time interval in the **From** and **Until** fields.
2. Enable or disable additional options if necessary.
3. Click on **Update**.

### 3.2.2.2 Updating the productivity display

The productivity display can be updated manually or automatically.

**Updating the productivity display manually**

1. Click on **Update** in the options bar.

**Updating the productivity display automatically**

1. Click on **Update** in the options bar.
2. Enable **Auto update**.
3. Enter the update interval in the **after** field.

### 3.2.2.3 Zoom in or zoom out of the productivity display

1. Click on the magnifying glass in the productivity display.
   - You zoom into or zoom out of the productivity display.
   - The descriptions of the tiers of the signal tower are also displayed in the zoomed in display.
3.2.2.4 Representation versions WIN slave and WIN slave control

The productive statuses can be represented as a bar chart or pie chart with WIN slave and WIN slave control.

<table>
<thead>
<tr>
<th>Bar chart</th>
<th>Pie chart</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Bar chart" /></td>
<td><img src="image2" alt="Pie chart" /></td>
</tr>
</tbody>
</table>

Switching between pie chart and bar chart

1. You can enable or disable **Calculate productive statuses** in the options bar.

![Options bar](image3)

2. Click on **Update** in the options bar.

3.2.2.5 Display versions WIN slave performance

It is possible to choose between the following display versions with WIN slave performance. Productive statuses can also be displayed as a pie chart.

<table>
<thead>
<tr>
<th>Display version</th>
<th>Representation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status</td>
<td><img src="image4" alt="Status chart" /></td>
</tr>
<tr>
<td>Productivity</td>
<td><img src="image5" alt="Productivity chart" /></td>
</tr>
<tr>
<td>Combined</td>
<td><img src="image6" alt="Combined chart" /></td>
</tr>
<tr>
<td>Productive statuses</td>
<td><img src="image7" alt="Productive statuses chart" /></td>
</tr>
</tbody>
</table>

Selecting the representation version

1. Click on the arrow symbol ⬇️;
   → The menu to select the representation version appears.
2. Select the representation version.
3. Click on **Update** in the options bar.

**Switching between pie chart and bar chart**

1. You can enable or disable **Calculate productive statuses** in the options bar.

   ![Options bar](image)

2. Click on **Update** in the options bar.

**3.2.2.6 Combined productivity**

Combined productivity can be shown in each view.

![Combined productivity](image)

- **Tip:** If the combined productivity is shown as a bar chart, the bars are not shown in the defined order but rather sorted according to the height of the bars.
Showing combined productivity
1. Click on the arrow \( \uparrow \) at the end of the view.
   - or -
2. Click on Show combined productivity in the toolbar.

Hiding combined productivity
1. Click on the arrow \( \downarrow \) above combined productivity.
   - or -
2. Click on Hide combined productivity in the toolbar.

3.2.3 Report

A report can be generated for each view. In the Productivity main view, the report takes into account all WIN slaves. In the user-defined views, the report takes into account the WIN slaves contained in the respective view.

The report is generated with the times and settings defined in the Options bar.

1. Call up the required view.
2. Click on Report / Export in the toolbar.
   → The Generate report window appears.
3. Select Tabular display of data or Graphical display of data option.

4. Click on OK.
   → The report is generated.
   → The Print preview for the report appears.

3.3 Runtime

The Runtime module shows an overview of the operation and downtimes of the machines monitored. This quickly detects patterns of downtime with machines, giving you improved transparency in the production process. This forms the basis for improving the efficiency of the machines monitored.

3.3.1 Views

The Runtime main view or a user-defined view can be used in the Runtime module.

3.3.1.1 Runtime main view

The data of all WIN slaves already configured can be displayed in the Runtime main view.
3.3.1.2 User-defined views

The user-defined views defined in the Control station module or Productivity module are available in addition to the Runtime main view. The user-defined views show an overview of the WIN slaves assigned in each case.

The user-defined views of the Control station, Productivity and Runtime modules are always identical. All view settings are applied.
### 3.3.1.3 Comparing multiple machines

Additional windows can be opened and arranged as required in the Runtime main view to compare multiple machines.

1. In the toolbar, expand Runtime main view by clicking on the arrow →.

2. Select New window.
   - A further window appears and can be arranged as required.

### 3.3.2 Runtime display

The runtime display shows a separate diagram for each WIN slave.

#### 3.3.2.1 WIN slave and WIN slave control

The WIN slave and WIN slave control runtime display includes the following information:

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Design of statuses in the selected time interval</td>
</tr>
<tr>
<td>2</td>
<td>Note field</td>
</tr>
<tr>
<td>3</td>
<td>Quantity of statuses in the selected time interval</td>
</tr>
<tr>
<td></td>
<td>The blink recognition signal is displayed as a shaded area in the colour of the respective tier.</td>
</tr>
</tbody>
</table>

Following a power loss, the **Power loss ⚠️** warning symbol is displayed as soon as power is...
applied again to the WIN slave or WIN slave control. There may be incorrect data during the preceding time interval.

3.3.2.2 WIN slave performance

The WIN slave performance runtime display includes the following information:

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Status display/quantity display for the selected time interval depending on the display version</td>
</tr>
<tr>
<td>2</td>
<td>Note field</td>
</tr>
<tr>
<td>3</td>
<td>Job field</td>
</tr>
<tr>
<td>4</td>
<td>Quantity of statuses in the selected time interval</td>
</tr>
</tbody>
</table>

The blink recognition signal is displayed as a shaded area in the colour of the respective tier.

Following a power loss, the **Power loss**⚠️ warning symbol is displayed as soon as power is supplied again to the WIN slave performance. There may be incorrect data during the preceding time interval.

3.3.2.3 Modifying the runtime display

The time interval of the values displayed can be modified in the **Options bar**. Additional information can be shown or hidden in the **Display options**.

The buttons in the **Navigation bar** can be used to scroll through and zoom into the diagram displayed.
Options bar

The values displayed can be further filtered and modified using additional options. The following options are available:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time interval</td>
<td>Select pre-set time interval or select &lt;manually&gt; and enter the time interval in the From and Until fields.</td>
</tr>
<tr>
<td>Shift</td>
<td>Enter a certain shift and influence of pause times on the calculation.</td>
</tr>
<tr>
<td></td>
<td>– Do not take into account pause times: Ignore shifts entered in the calculation.</td>
</tr>
<tr>
<td></td>
<td>– Only productive times: Take shift model into account in the calculation.</td>
</tr>
<tr>
<td></td>
<td>– Single shift: Only calculate the selected shift as the time period. All times outside of the shift are calculated as pause times.</td>
</tr>
</tbody>
</table>

Update productivity display manually.
Enable automatic update and define the update interval.

To modify the runtime display:
1. Select the pre-set time interval in the Time interval selection list or enter another time interval in the From and Until fields.
2. If necessary, enable or disable additional options in the Display options.
3. Click on Update.

Showing or hiding the options bar

To hide the options bar and zoom into the representation of the diagram:
1. Click on Display options in the menu bar.
2. Click on Hide filter.

To show the options bar again:
1. Click on Display options in the menu bar.
2. Click on Show filter.

Display options

You can show or hide different information in a runtime diagram in the Display options, regardless of the WIN slave displayed. The following options are available:
<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hide filters</td>
<td>Show or hide options bar.</td>
</tr>
<tr>
<td><strong>Display job volume (plan)</strong></td>
<td>Display job volume in a diagram.</td>
</tr>
<tr>
<td><strong>Display job curve (plan)</strong></td>
<td>Display plan volume corresponding to the cycle time of the job in a diagram.</td>
</tr>
<tr>
<td><strong>Display modified job curve (plan)</strong></td>
<td>Display actual volume in a diagram. The pause times and volumes from other shifts will be taken into account.</td>
</tr>
<tr>
<td><strong>Display automatic job end</strong></td>
<td>Display job end in a diagram.</td>
</tr>
<tr>
<td><strong>Label pause markings</strong></td>
<td>Mark pause times in the diagram.</td>
</tr>
<tr>
<td><strong>Display shift names</strong></td>
<td>Display the names of the shifts in the diagram.</td>
</tr>
</tbody>
</table>

**Example:**

![Diagram showing shift names and job volume](image)

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Shift name</td>
</tr>
<tr>
<td>2</td>
<td>Job volume (plan)</td>
</tr>
<tr>
<td>3</td>
<td>Pause</td>
</tr>
<tr>
<td>4</td>
<td>Job curve (plan)</td>
</tr>
<tr>
<td>5</td>
<td>Modified job curve</td>
</tr>
<tr>
<td>6</td>
<td>Quantity (actual)</td>
</tr>
</tbody>
</table>
### 3.3.2.4 Updating the runtime display

The runtime display can be updated manually or automatically.

**Updating the runtime display manually**

1. Click on **Update** in the options bar.

**Updating the runtime display automatically**

1. Click on **Update** in the options bar.
2. Enable **Auto update**.
3. Enter the update interval in the **after** field.

### 3.3.3 Notes/Fault conditions

Different notes or fault conditions can be entered for each WIN slave in the **Runtime** module.

#### 3.3.3.1 Creating a note/fault condition

Notes or fault conditions can be created for defined time intervals.

The time interval of a note or fault condition can be defined in two ways:

- Manually defining the time interval of the note or fault condition
- Defining the time interval of the note or fault condition based on the duration of a status
Manually defining the time interval of the note or fault condition
1. Double-click in the comment field in the WIN slave diagram. → The Edit note window appears.
2. Enter the time interval in the Start and End fields.

Defining the time interval of the note or fault condition based on the duration of a status
1. Click twice on a status in the WIN slave diagram. → The Edit note window appears.

If Use touch interface to assign fault conditions has been enabled under Settings, the display option for Touch interface appears instead of the Edit note window. A defined fault condition can only be selected in this case. It is not possible to create a note.

Editing a note/fault condition
1. Select Fault condition in the selection list.
Fault conditions must have previously been defined under Settings. The defined fault conditions can then be selected in the Fault condition selection list.

2. Select the Colour.
3. Modify the time interval in the Start and End fields.
4. Enter a note in the Note field.
5. Click on OK to save the note or fault condition.

### 3.3.3.2 Displaying a note/fault condition

1. Place the cursor on the note.
   → The note is displayed in an information window.

### 3.3.3.3 Editing a note/fault condition

1. Right-click on the required note.
2. Select Edit in the pop-up menu.
   - or -
1. Double-click on the required note.
   → The Edit note window appears.

2. Modify the note as required.
3. Click on OK to save all changes.

### 3.3.3.4 Deleting a note/fault condition

1. Right-click on the note to be deleted.
2. Select Delete in the pop-up menu.
3. Confirm the prompt with **Yes**.
   → The note has been deleted.

### 3.3.3.5 Limiting the view to the time interval of a note/fault condition

1. Right-click on the required note.
2. Check **Select time interval** in the pop-up menu.
   → The view zooms in or out of the time interval of the note.

### 3.3.4 Job

If a job has been created in the Job module for a WIN slave performance, this appears in the diagram.

#### 3.3.4.1 Displaying jobs

1. Place the cursor on the job or the associated line.
   → The job information is displayed in an information window.

#### 3.3.4.2 Limiting the view to the time interval of a job

1. Right-click on the job.

2. Check **Select time interval** in the pop-up menu.
   → The view zooms in or out of the time interval of the job.

#### 3.3.4.3 Displaying job information

1. Right-click on the job.

2. Select **Go to Job overview** in the pop-up menu.
   → The **Job** module appears and displays the corresponding job.
3.3.5 Report

A report can be generated for each view. In the Runtime main view the report takes into account all WIN slaves. In the user-defined views, the report takes into account the WIN slaves contained in the respective view.

The report is generated with the times and settings defined in the Options bar.

1. Call up the required view.
2. Click on Report / Export in the toolbar.
   → The Generate report window appears.

3. Select the required report in the Data selection area.
4. Click on OK.
   → The report is generated.
   → The Print preview for the report appears.

3.4 Job

The Job module shows which job is running on which machine and how far it has progressed.
No jobs can be created for WIN slave and WIN slave control.

3.4.1 Job overview

The job overview shows all jobs created with the relevant details. Auto jobs are listed in a separate area that can be shown and hidden.

Clicking on the column name in the job overview lets you collate the displayed jobs in ascending or descending order.

The fields in the options bar can be used to filter and collate the displayed jobs.
3.4.1.1 Showing Auto jobs

1. Click on the arrow \( \rightarrow \) at the end of the view.
   - or -
1. Click on Show Auto jobs in the toolbar.

3.4.1.2 Hiding Auto jobs

1. Click on the arrow \( \uparrow \) above the Auto jobs overview.
   - or -
1. Click on Hide Auto jobs in the toolbar.

3.4.2 Job details

Job details show all information on a job selected in the job overview.
3.4.2.1 Schedule deviation

The Schedule deviation area displays information on the set-up, start, run and end time.

The schedule deviation is specified in machine hours. 0.1 machine hours corresponds to 6 minutes, 1 machine hour corresponds to 60 minutes.

3.4.2.2 Job progression

The Job progression area displays information on the plan quantity and actual quantity.

The current data is displayed for jobs currently running. The job progression is calculated as the ratio of the current actual quantity to the current plan quantity, expressed as a percentage.

The data for completed jobs is displayed at the end of the job. The job progression is calculated as the ratio of the actual quantity to the plan quantity, expressed as a percentage.

A traffic light display provides a quick overview of how well or poorly the job is running or has run in the Schedule deviation, Job progression and Productivity areas.

The traffic light setting can be individually modified if required.
In addition, you can see the actual correction and the factor entered for this job.

### 3.4.2.3 Productivity

The **Productivity** area displays information on the plan cycle time and the actual cycle time.

![Productivity Chart](chart.png)

The current data is displayed for jobs currently running. The productivity is calculated as the ratio of the current actual cycle time to the current plan cycle time, expressed as a percentage.

The data for completed jobs is displayed at the end of the job. The productivity is calculated as the ratio of the actual cycle time to the plan cycle time, expressed as a percentage.

### 3.4.2.4 Editing traffic light settings

The traffic lights for **Schedule deviation**, **Job progression** and **Productivity** can be individually adapted.

The traffic light settings are saved in a local configuration file. You have to edit this local configuration file to change the traffic light setting.

---

**Tip**

The configuration file must be copied to transfer the altered traffic light setting to other PCs.

---

1. Open the following folder on your PC: `C:\ProgramData\WERMA\WERMA-WIN-3.0` or `C:\ProgramData\WERMA\WERMA-WIN-4.0`
2. Use a text editor (e.g. Notepad) to open the configuration file `WERMA-WIN.ini`
3. Search for the following segment in the configuration file.

```
[Orders]
ProductivityGreenLimit=100
ProductivityYellowLimit=75
CompletionGreenLimit=100
CompletionYellowLimit=90
RuntimeGreenLimit=100
RuntimeYellowLimit=110
```

Version: 5.1 - 11/2020
<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Productivity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ProductivityGreenLimit</td>
<td>Indicates up to what percentage the traffic light is switched to Green.</td>
<td>ProductivityGreenLimit=100 ProductivityYellowLimit=75 Productivity 0% to 74%: Traffic light is red</td>
</tr>
<tr>
<td>ProductivityYellowLimit</td>
<td>Indicates up to what percentage the traffic light is switched to Yellow.</td>
<td>Productivity 75% to 99%: Traffic light is yellow Productivity 100% or higher: Traffic light is green</td>
</tr>
<tr>
<td><strong>Job progression</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CompletionGreenLimit</td>
<td>Indicates up to what percentage the traffic light is switched to Green.</td>
<td>CompletionGreenLimit=100 CompletionYellowLimit=90 Job progression 0% to 89%: Traffic light is red</td>
</tr>
<tr>
<td>CompletionYellowLimit</td>
<td>Indicates up to what percentage the traffic light is switched to Yellow.</td>
<td>Job progression 90% to 99%: Traffic light is yellow Job progression 100% or higher: Traffic light is green</td>
</tr>
<tr>
<td><strong>Schedule deviation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RuntimeGreenLimit</td>
<td>Indicates up to what percentage the traffic light is switched to Green.</td>
<td>RuntimeGreenLimit=100 RuntimeYellowLimit=110 Schedule deviation 0% or negative: Traffic light is green</td>
</tr>
<tr>
<td>RuntimeYellowLimit</td>
<td>Indicates up to what percentage the traffic light is switched to Yellow.</td>
<td>Schedule deviation 1% to 10%: Traffic light is yellow Schedule deviation greater than 11%: Traffic light is red</td>
</tr>
</tbody>
</table>

4. Save the configuration file once all changes have been made.

- The modified traffic light setting will be available as soon as WERMA-WIN is restarted.

### 3.4.3 Entering jobs

Jobs can be manually entered or imported from a Job list.

Auto jobs can be created for recurring jobs. Auto jobs start and stop the jobs automatically.
An Auto job is only started if no other job is running on the selected WIN slave performance or has the status Active waiting.

3.4.3.1 Entering single jobs

1. Click on Enter job in the toolbar.
   → The Enter job window appears.

2. Select the Single job Type in the Job information area.

3. Enter your required Job number and Description.

   The ID is a continuous number and is automatically issued by WERMA-WIN.

4. Select the WIN slave performance on which the job is to run in the Machine selection list.

5. Enter the required plan values for the job in the Plan specifications area.

<table>
<thead>
<tr>
<th>Plan value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>Volume to be produced</td>
</tr>
<tr>
<td>Cycle time</td>
<td>Time needed to produce a part</td>
</tr>
<tr>
<td>Set up time</td>
<td>Set up time for the job</td>
</tr>
<tr>
<td></td>
<td>If a part has been produced before the end of the set up time entered, the actual set up time is set to this time.</td>
</tr>
<tr>
<td>Factor</td>
<td>Quantity of pieces per cycle</td>
</tr>
<tr>
<td>net runtime</td>
<td>The time calculated by WERMA-WIN that is required to complete the job (including set up time, excluding pause times).</td>
</tr>
</tbody>
</table>
6. Enter the required actual values for the job in the Actual value area.

<table>
<thead>
<tr>
<th>Actual value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amend actual quantity</td>
<td>Positive or negative correction values (e.g. with reject parts)</td>
</tr>
<tr>
<td>Actual set up time</td>
<td>Time from the start of job until the first quantity being transmitted. WERMA-WIN system automatically sets the time which can be manually altered.</td>
</tr>
</tbody>
</table>

7. Enable Stop at in the End area and enter the end time if the job is to be completed at a certain time.

8. Enable Stop when the plan quantity is reached in the End area if the job is to be completed when the plan quantity is reached.

If Stop at and Stop when the plan quantity is reached are enabled simultaneously, the job is stopped as soon as the end time or the plan quantity has been reached.

There can be deviations relating to the actual quantity (≥ plan quantity) due to radio transmission.

Once all data has been entered:
1. Click on Start to start the job immediately.
   - or -
1. Click on OK to save the job and set the status to Waiting.

3.4.3.2 Entering Auto jobs

1. Click on Enter job in the toolbar.
   → The Enter job window appears.
2. Select the Single job Type in the Job information area.
3. Enter your required **Job number** and **Description**.

   - **The ID** is a continuous number and is automatically issued by WERMA-WIN.

4. Select the WIN slave performance on which the job is to run in the **Machine** selection list.

5. Enter the required plan values for the job in the **Plan specifications** area.

<table>
<thead>
<tr>
<th>Plan value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>Volume to be produced</td>
</tr>
<tr>
<td>Cycle time</td>
<td>Time needed to produce a part</td>
</tr>
<tr>
<td>Set up time</td>
<td>Set up time for the job</td>
</tr>
<tr>
<td></td>
<td>If a part has been produced before the end of the set up time entered, the actual set up time is set to this time.</td>
</tr>
<tr>
<td>Factor</td>
<td>Quantity of pieces per cycle</td>
</tr>
<tr>
<td>net runtime</td>
<td>The time calculated by WERMA-WIN that is required to complete the job (including set up time, excluding pause times).</td>
</tr>
</tbody>
</table>
6. Enable Stop at in the End area and enter the end time if the job is to be completed at a certain time.

7. Enable Stop when the plan quantity is reached in the End area if the job is to be completed when the plan quantity is reached.

If Stop at and Stop when plan quantity is reached are enabled simultaneously, the Auto job is stopped as soon as the end time or the plan quantity has been reached.

There can be deviations relating to the actual quantity (≥ plan quantity) due to radio transmission.

8. Enter the required start time in the Job start time field in the Auto job Options area.

9. Select Enabled if the Auto job is to be enabled once it has been saved.

10. Enable the days on which the Auto job is to be performed in the Active days area.

11. Enter the start and end of the Auto job.

<table>
<thead>
<tr>
<th>Field/Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start date</td>
<td>Start date of Auto job</td>
</tr>
<tr>
<td>No end date</td>
<td>Auto job remains enabled until it is manually disabled.</td>
</tr>
<tr>
<td>End after x jobs</td>
<td>Auto job is disabled after the specified number of jobs.</td>
</tr>
<tr>
<td>End by</td>
<td>Auto job is disabled up to the specified time.</td>
</tr>
</tbody>
</table>

WERMA-WIN checks for a duration of 1 year whether Auto jobs overlap. Overlapping Auto jobs cannot be saved.

12. Click on OK to save the Auto job.

### 3.4.3.3 Importing a job list

A job list can be imported in CSV format to create several jobs simultaneously.

**Requirement:**
- There is a CSV file available in a suitable format.

1. Click on Import job list in the toolbar.

   → The Import jobs window appears.

   ![Import jobs window](image)
2. Click on **Browse** and open the CSV file you require.

3. Adapt the **File format** if necessary.

4. Click on **Next**.
   - The CSV file is imported and checked.
   - If the check is successful, the jobs appear in the job overview.

**Format of the job list**

The CSV file must meet the following requirements to correctly import a job list.

**Column label or header:**
- JOBNUMBER
- DESCRIPTION
- MACHINE
- QUANTITY
- CYCLETIME
- SETUPTIME
- FACTOR

**Format rules:**
- The Windows standard character set (for example Western European) or Unicode (UTF-8)
- Header or first row with column label must be specified.
- The delimiters are a semicolon (;), comma (,), Tabulator (\t) or pipe (|). Only one delimiter is allowed per document.
- SETUPTIME must be in the format [hh]h:mm (e.g. 0:00).
- CYCLETIME must be in seconds (e.g. 0.8).
- Decimal numbers must always use a point as a decimal separator (e.g. 0.8).
- Every data value can be placed in double quotation marks. The data value can therefore be a text. A semicolon (;) can occur in the text with quotation marks.
- One decimal place is allowed after the point for the cycle time (CYCLETIME).
- Three decimal places are allowed after the point for the factor (FACTOR).
- The maximum number of characters is checked.

**Not relevant:**
- The column order is not relevant (data is identified by the header).
- Column labels and headers are not case-sensitive.
- A maximum of 7 columns can be created. Not all columns need to be specified.

**Example:**

<table>
<thead>
<tr>
<th>JOBNUMBER</th>
<th>DESCRIPTION</th>
<th>MACHINE</th>
<th>QUANTITY</th>
<th>CYCLETIME</th>
<th>SETUPTIME</th>
<th>FACTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>4800</td>
<td>&quot;Round parts;4711&quot;</td>
<td>Job: Machine 2</td>
<td>10000</td>
<td>0.8</td>
<td>01:00</td>
<td>2</td>
</tr>
<tr>
<td>4801</td>
<td>&quot;Round parts;4500&quot;</td>
<td>Job: Machine 3</td>
<td>15000</td>
<td>1.0</td>
<td>05:00</td>
<td>1</td>
</tr>
<tr>
<td>4802</td>
<td>&quot;Round parts;3520&quot;</td>
<td>Job: Machine 2</td>
<td>10000</td>
<td>0.7</td>
<td>01:00</td>
<td>2</td>
</tr>
<tr>
<td>4803</td>
<td>&quot;Round parts;8466&quot;</td>
<td>Job: Machine 5</td>
<td>20000</td>
<td>1.2</td>
<td>10:00</td>
<td>5</td>
</tr>
<tr>
<td>4804</td>
<td>&quot;Round parts;0124&quot;</td>
<td>Job: Machine 6</td>
<td>5000</td>
<td>1.5</td>
<td>01:50</td>
<td>1</td>
</tr>
<tr>
<td>4805</td>
<td>&quot;Round parts;4500&quot;</td>
<td>Job: Machine 2</td>
<td>50000</td>
<td>1.0</td>
<td>03:00</td>
<td>1</td>
</tr>
</tbody>
</table>

Version: 5.1 - 11/2020
3.4.4 Starting jobs

Jobs can be started in the following way:

- Manually
- Quick start
- With the first pulse at the Counter input tier
- With the first pulse at the Job input tier

3.4.4.1 Starting a job manually

1. Select a job with the state Waiting in the job overview.
2. Click on Start job in the toolbar.
   → The job is started.

- or -
1. Right-click on the job to be started.
2. Select Start job in the pop-up menu.
   → The job is started.

3.4.4.2 Job quick start

Jobs from all modules can be started using a keyboard shortcut. Once the ID, job number or description has been entered, the program searches for a corresponding job and starts it immediately.

1. In the toolbar, expand Start job by clicking on the arrow ↓.

2. Select Quick start.
   → The Job quick start window appears.

3. Choose the option the program is to search for.
4. Enter the value of the selected option into the corresponding field.
5. Click on OK to search for a job with the corresponding value.
   → If a job with the corresponding value is available, then it is started immediately.

3.4.4.3 Job start with 1st piece

Jobs can be started as soon as the first pulse to the Counter input tier of a WIN slave performance has been transmitted.

The job can be ended by a further pulse to the Job input tier.

1. Select a job with the state Waiting in the job overview.
2. In the toolbar, expand Start job by clicking on the arrow ➤ .

3. Select Start with 1st Piece in the pop-up menu.
   → The state of the job changes to Active waiting.
   → The job starts automatically as soon as the first pulse to the Counter input tier of a WIN slave performance has been transmitted.

- or -

1. Right-click on the job to be started.
2. Select Start with 1st Piece in the pop-up menu.
   → The state of the job changes to Active waiting.
   → The job starts automatically as soon as the first pulse to the Counter input tier of a WIN slave performance has been transmitted.

3.4.4.4 Job start with job input

Jobs can be started as soon as the first pulse to the Job input tier of a WIN slave performance has been transmitted.

The job can be ended by a further pulse to the Job input tier.

1. Select a job with the state Waiting in the job overview.
2. In the toolbar, expand Start job by clicking on the arrow ➤ .

3. Select Start with job input.
   → The state of the job changes to Active waiting.
The job starts automatically as soon as the first pulse to the Job input tier of a WIN slave performance has been transmitted.

- or -
1. Right-click on the job to be started.
2. Select Start with job input in the pop-up menu.
   ➔ The state of the job changes to Active waiting.
   ➔ The job starts automatically as soon as the first pulse to the Job input tier of a WIN slave performance has been transmitted.

### 3.4.5 Completing jobs

1. Select the required job in the job overview.
2. Click on End job in the toolbar.
- or -
1. Right-click on the required job.
2. Select End job in the pop-up menu.

### 3.4.6 Activating Auto jobs

1. Enable the checkbox in the Activated column in the overview of Auto jobs.

### 3.4.7 Disabling Auto jobs

1. Disable the checkbox in the Activated column in the overview of Auto jobs.

### 3.4.8 Editing jobs

1. Select the required job in the job overview.
2. Click on Edit job in the toolbar.
- or -
1. Right-click on the required job.
2. Select Edit job in the pop-up menu.
3. Edit the job information as required.

Once all data has been entered:

1. Click on Start to start the job immediately.
   - or -

1. Click on OK to save the job and set the status to Waiting.

### 3.4.9 Correction of a completed job

1. Select the job with the state Completed in the Job overview.

2. Click on Edit job in the toolbar.
   - or -

1. Right-click on the required job.

2. Select Edit job in the pop-up menu.
   → The Edit job window appears.
3. Change the job information as required.
4. Click on OK to save the settings.

3.4.10 Deleting jobs

1. Select the job in the job overview.
2. Click on Delete job in the toolbar.
   - or -
   1. Right-click on the job to be deleted.
   2. Select Delete job in the pop-up menu.

3.4.11 Duplicating jobs

1. Right-click on the required job.
2. Select Duplicate job in the pop-up menu.
   → The Copy job window appears.
3. Modify the job information as required.
4. Click on OK to save the settings.

3.4.12 Report

A report can be generated for the filters currently selected and the current collation in the job overview. Only jobs on the machine are taken into account in the report as soon as a certain machine has been selected in the filter menu.

1. Adapting the required filters and collation.
2. Click on Report / Export in the toolbar.
   → The Generate report window appears.

3. Select the required report in the Data selection area.

   Selecting the Tabular display of data option allows the content of the report to be individually adapted.
4. Click on OK.
   → Selecting the **Tabular display of data** option generates the report and the *Print preview* is displayed.
   → Selecting the **Tabular display of data** option makes the window appear for further data selection.

5. Adapting the report by enabling or disabling the individual buttons.

6. Click on OK.
   → The report is generated.
   → The *Print preview* for the report appears.

### 3.5 Control

In the **Control** module, rules with different logic functions can be defined, with which WIN slave control can be switched or controlled. The WIN slave included in the WERMA-WIN network can be used as the input signals for the logic functions.
No rules can be defined for WIN slave and WIN slave performance.

3.5.1 Overview of rules

The overview of rules shows a list of all switching rules that have been created and their current status.
### 3.5.2 Defining new rules

New rules can be defined either using an assistant, which takes you step by step through the settings, or in an Expert mode.

#### 3.5.2.1 Creating a new rule with assistants

1. Click on **New rule (Assistant)** in the toolbar.
   → The **Define new switching rule** window appears and shows an example of a switching rule.

2. Click on **Next**.
   → The window to select the logic function appears.
Selecting the logic function

3. Select the **Logic function** with which the input signals are to be linked.

<table>
<thead>
<tr>
<th>Logic function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AND</td>
<td>Each tier must be in the selected status.</td>
</tr>
<tr>
<td>OR</td>
<td>At least one tier must have the selected status.</td>
</tr>
<tr>
<td>NOR</td>
<td>No tier may be in the defined status.</td>
</tr>
</tbody>
</table>

The graphic on the right in the window shows an example of the logic function selected. You may wish to create your own logic functions.

4. Click on **Next**. The window to select the input signal appears.

Selecting the input signal
5. Click on **Add** to select the input signals for the selected logic function.  
→ The **Select tier and status** window appears.

<table>
<thead>
<tr>
<th>1. WIN slave select</th>
<th>2. Select tier</th>
<th>3. Select status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name</strong></td>
<td><strong>MAC ID</strong></td>
<td><strong>Tier</strong></td>
</tr>
<tr>
<td>Unit 1</td>
<td>0222</td>
<td>1</td>
</tr>
<tr>
<td>Unit 2</td>
<td>0222</td>
<td>2</td>
</tr>
<tr>
<td>Unit 3</td>
<td>0222</td>
<td>3</td>
</tr>
</tbody>
</table>

Note: Only configured tiers are displayed. The tiers can be configured in the Control station module.

The counter input of a WIN slave performance cannot be used as an input signal for a logic function.

6. Select the WIN slave to be used as the input signal.
7. Select the tier of the WIN slave to be used as the input signal.

8. Select the status in which the selected tier is to be.
9. Click **OK** to apply the settings.  
→ The **Define new switching rule** window appears and shows the input signal defined in the list.

10. Click on **Add**, if necessary, to add an additional input signal.
11. Click on **Edit**, if necessary, to modify the selected input signal.
12. Click on **Delete**, if necessary, to delete the selected input signal.

13. Set the switching delay in the **Delay** field.

14. Click on **Next**.
   → The window for selection of the output signal appears.

**Selecting the output signal**

15. Click on **Add**.
   → The **Select tier** window appears.

16. Select the WIN slave control to be used as the output signal.

17. Select the tier to be switched.

18. Click **OK** to apply the settings.
The Define new switching rule window appears and shows the input signal defined in the list.

19. Click on Add, if necessary, to add an additional output signal.
20. Click on Edit, if necessary, to modify the selected output signal.
21. Click on Delete, if necessary, to delete the selected output signal.
22. Define whether the Output signal should be switched as a Permanent light or blinking.
23. Click on Next.

24. In the Name field, enter a name for the switching rule.
25. Enable Show the advanced settings dialog if more settings are to be entered for the switching rule.
26. Click on OK to save the switching rule.
   → The switching rule appears in the rule overview and is enabled.
3.5.2.2 Defining new rules in Expert mode

1. Click on New rule (Expert) in the toolbar.  
   → The Define new switching rule window appears.

2. In the Name field, enter a name for the switching rule.

Selecting the output signal

1. Click on Edit beside the Output signals field.  
   → The Define new switching rule window appears and shows an example of a switching rule.
2. Click on **Add**.
   → The **Select tier** window appears.

3. Select the WIN slave control to be used as the output signal.
4. Select the tier to be switched.
5. Click **OK** to apply the settings.
   → The **Define new switching rule** window appears and shows the input signal defined in the list.

6. Click on **Add**, if necessary, to add an additional output signal.
7. Click on Edit, if necessary, to modify the selected output signal.
8. Click on Delete, if necessary, to delete the selected output signal.
9. Define whether the Output signal should be switched as a Permanent light or Blinking.
10. Click on Next to save the settings.
   → The Define new switching rule window appears.

Selecting the logic function for permanent light

1. Click on Edit beside the Logic function for permanent light field.
   → The Define new switching rule window appears and shows an example of a switching rule.

2. Select the Logic function with which the input signals are to be linked.

<table>
<thead>
<tr>
<th>Logic function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AND</td>
<td>Each tier must be in the selected status.</td>
</tr>
<tr>
<td>OR</td>
<td>At least one tier must have the selected status.</td>
</tr>
<tr>
<td>NOR</td>
<td>No tier may be in the defined status.</td>
</tr>
</tbody>
</table>

The graphic on the right in the window shows an example of the logic function selected.
You may wish to create your own logic functions.

3. Click on Next.
   → The window to select the input signal appears.
Selecting the input signal

4. Click on **Add** to select the input signals for the selected logic function.  
   → The **Select tier and status** window appears.

   ![Select tier and status window](image)

   The **Select tier and status** window shows all the WIN slaves included in the WERMA-WIN network. The available tiers and statuses correspond to the tiers and statuses configured in the **Control station** module.

   The blinking status is only displayed if blink recognition is enabled for the tier.

5. Select the WIN slave to be used as the input signal.
6. Select the tier of the WIN slave to be used as the input signal.

   ![Counter input warning](image)

   i The counter input of a WIN slave performance cannot be used as input signal for a logic function.

7. Select the status in which the selected tier is to be.
8. Click **OK** to apply the settings.
   → The **Define new switching rule** window appears and shows the input signal defined in the list.

![Define new switching rule window](image)

9. Click on **Add**, if necessary, to add an additional input signal.
10. Click on **Edit**, if necessary, to modify the selected input signal.
11. Click on **Delete**, if necessary, to delete the selected input signal.
12. Set the switching delay in the **Delay** field.

   The switching delay defines how long all input signals have to be in the same status for the output signal to be switched.

13. Click on **Next** to save the settings.
   → The **Define new switching rule** window appears.

**Selecting the logic function for blinking light**

1. Click on **Edit** beside the **Logic function for blinking light** field.
   → The **Define new switching rule** window appears and shows an example of a switching rule.
2. Select the **Logic function** with which the input signals are to be linked.

<table>
<thead>
<tr>
<th>Logic function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AND</td>
<td>Each tier must be in the selected status.</td>
</tr>
<tr>
<td>OR</td>
<td>At least one tier must have the selected status.</td>
</tr>
<tr>
<td>NOR</td>
<td>No tier may be in the defined status.</td>
</tr>
</tbody>
</table>

The graphic on the right in the window shows an example of the logic function selected. You may wish to create your own logic functions.

3. Click on **Next**.

   → The window to select the input signal appears.

**Selecting the input signal**

4. Click on **Add** to select the input signals for the selected logic function.
The Select tier and status window appears.

The Select tier and status window shows all the WIN slaves included in the WERMA-WIN network. The available tiers and statuses correspond to the tiers and statuses configured in the Control station module.

The blinking status is only displayed if blink recognition is enabled for the tier.

5. Select the WIN slave to be used as the input signal.
6. Select the tier of the WIN slave to be used as the input signal.

The counter input of a WIN slave performance cannot be used as input signal for a logic function.

7. Select the status in which the selected tier is to be.
8. Click OK to apply the settings.

The Define new switching rule window appears and shows the input signal defined in the list.
9. Click on **Add**, if necessary, to add an additional input signal.

10. Click on **Edit**, if necessary, to modify the selected input signal.

11. Click on **Delete**, if necessary, to delete the selected input signal.

12. Set the switching delay in the **Delay** field.

   The switching delay defines how long all input signals have to be in the same status for the output signal to be switched.

13. Click on **Next** to save the settings.
    → The Define new switching rule window appears.

14. Select whether the output signal should be switched as a **Permanent light** or **Blinking**, if both logic functions apply.

15. Click on **OK** to save the switching rule.
    → The switching rule appears in the rule overview and is enabled.

3.5.2.3 **Entering custom logic function in expert mode**

1. Select **Enter custom logic function (expert mode)** option in the Switching rule window.

2. Click on **Next**.
   → The Logic function (expert mode) window appears.
3. Enter a custom logic function in Visual Basic Syntax or create it using the buttons in the Logic function area.

<table>
<thead>
<tr>
<th>Button</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>WIN slave</td>
<td>Paste tier and status of a WIN slave.</td>
</tr>
<tr>
<td>AND</td>
<td>Paste logic function AND.</td>
</tr>
<tr>
<td>OR</td>
<td>Paste logic function OR.</td>
</tr>
<tr>
<td>NOT</td>
<td>Paste logic function NOT.</td>
</tr>
<tr>
<td>(...)</td>
<td>Paste brackets.</td>
</tr>
</tbody>
</table>

The program code uses the MAC IDs of the WIN slaves, not the individual WIN slave names.

4. Click on Check to check the switching rule created.
   - WERMA-WIN checks the switching rule.
   - If the switching rule includes errors, a window appears with relevant information on resolving the errors.

5. Click on Next.
   - The switching rule is saved.

Examples of custom logic functions

Example 1: AND rule

Tier 1 and Tier 2 of a WIN slave must have the status ON.

Slave("0024B1").Tier1.On AND Slave("0024B1").Tier2.On

Example 2: OR rule

Tier 1 of a WIN slave must have the status Blinking or Tier 2 of the same WIN slave must have the status OFF.

Slave("0024B1").Tier1.Blink OR Slave("0024B1").Tier2.Off

Example 3: NOR rule

Neither of the two WIN slave may display a connection error.

NOT (Slave("0024B1").Tier1.Error OR Slave("0024B2").Tier1.Error)

Example 4: Logic function using variables

' declare variables
Dim a As Boolean
Dim b As Boolean
Dim x As Boolean

' read out Slave statuses and store in variables
a = Slave("0024A1").Tier1.On
b = Slave("0024A2").Tier1.On
Program code which processes variables.
\[ x = a \text{ OR } b \]

Note: if multiple program lines are entered, the result of the logic function must be returned as Boolean data type with ‘Return’.

Return \( x \)

### 3.5.3 Enabling a rule

1. Select the switching rule in the rule overview.
2. Click on **Enable rule** in the toolbar.
3. Confirm the prompt with **Yes** to enable the rule.

### 3.5.4 Disabling a rule

The WIN slave control remains in the last transmitted status as soon as a switching rule has been disabled.

1. Select the switching rule in the rule overview.
2. Click on **Disable rule** in the toolbar.
3. Confirm the prompt with **Yes** to disable the switching rule.

### 3.5.5 Editing a rule

1. Select the switching rule in the rule overview.
2. Click on **Edit rule** in the toolbar.
   - The **Edit switching rule** window appears.
3. Enable or disable Enable switching rule to immediately enable or disable the switching rule.

4. Adapt the Output signals by clicking on Edit, if necessary.

Only one switching rule can be enabled on an output signal.

5. Adapt the Logic function for permanent light and the Logic function for blinking light: by clicking on Edit, if necessary.

6. Remove the Logic function for permanent light and the Logic function for blinking light by expanding the Edit button and clicking on Delete, if necessary.

7. Select whether the output signal should be switched as a Permanent light or Blinking, if both logic functions apply.

8. Click OK to apply the settings.

### 3.5.6 Duplicating a rule

1. Select the switching rule in the rule overview.

2. Click on Duplicate rule in the toolbar.

3. Confirm the prompt with Yes.
   → The Duplicate switching rule window appears.
4. Enter the name of the switching rule in the Name field.

5. Enable or disable Enable switching rule to immediately enable or disable the switching rule.

6. Adapt the Output signals by clicking on Edit, if necessary.

   Only one switching rule can be enabled on an output signal.

7. Adapt the Logic function for permanent light and the Logic function for blinking light: by clicking on Edit, if necessary.

8. Remove the Logic function for permanent light and the Logic function for blinking light by expanding the Edit button and clicking on Delete, if necessary.

9. Select whether the output signal should be switched as a Permanent light or Blinking, if both logic functions apply.

10. Click OK to apply the settings.

### 3.5.7 Deleting a rule

   The WIN slave control remains in the last transmitted status once a switching rule has been deleted.

1. Select the switching rule in the rule overview.
2. Click on Delete rule in the toolbar.
3. Confirm the prompt with Yes to delete the rule.
3.6 Routing

The Routing module shows an overview of the WERMA-WIN network. A tree structure shows the structure and the quality of the wireless connections between the individual devices.

<table>
<thead>
<tr>
<th>Design</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="WIN master" /></td>
<td>WIN master</td>
</tr>
<tr>
<td><img src="image" alt="WIN ethernet master" /></td>
<td>WIN ethernet master</td>
</tr>
<tr>
<td><img src="image" alt="WIN slave, WIN slave control, WIN slave performance" /></td>
<td>WIN slave, WIN slave control, WIN slave performance</td>
</tr>
<tr>
<td><img src="image" alt="Good radio connection between the devices." /></td>
<td>Good radio connection between the devices.</td>
</tr>
<tr>
<td><img src="image" alt="Weak radio connection between the devices." /></td>
<td>Weak radio connection between the devices.</td>
</tr>
<tr>
<td>Design</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>-------------</td>
</tr>
<tr>
<td><img src="image" alt="Design" /></td>
<td>Poor radio connection between the devices.</td>
</tr>
</tbody>
</table>

To ensure the best possible radio connection, every WIN slave automatically looks for the best transmission path to the WIN master. Other WIN slave can act as repeaters and forward the radio signal to improve the radio connection or increase the range.

**Direct connection:**

**Connection via another WIN slave as a repeater:**

![Diagram](image)

---

- A WIN slave can set up a connection to the WIN master via at most two more WIN slaves.

- Unconnected but configured WIN slaves are displayed in the lower part of the window, if there are any.

---

### 3.6.1 Displaying connection status

The connection status and the connection type of all WIN masters saved in the WERMA-WIN database can be displayed in the **Connection status** window.
1. Click on **Connection status** in the toolbar.
   → The **Connection status** window appears.

### 3.6.2 Optimising wireless communication

Wireless communication can be improved by implementing the following measures:

- Position the WERMA-WIN devices within sight of each other.
- Remove as many metal surfaces as possible between the WERMA-WIN devices.
- Position WIN master as ideally as possible.
- Poor radio connections can be improved by the use of a repeater (WIN slave).
- Connect any parts of the system outside of radio range via a further WIN master.

### 3.7 Settings

The functions of WERMA-WIN can be modified under **Settings**.

Settings can be protected by a password to prevent unauthorised access.

To call up **Settings**:

1. Click **Settings** in the toolbar.
   → The **Settings** window appears.
3.7.1 General

Various settings can be modified on the General tab.

The following settings can be modified:

- Program interface language
- Search for updates
- Minimise program window in the system tray
- View at program start
- Description and colour of general statuses
- Standard setting for shift selection

3.7.1.1 Selecting the language of the program interface

1. Select the language in the Language dropdown list.
2. Click on **OK** to save the settings.
   → **WERMA-WIN** is restarted and appears in the selected language after the restart.

### 3.7.1.2 View at program start

It is possible to set which module is to be automatically displayed in which view when the program starts.

The following views are possible:

<table>
<thead>
<tr>
<th>Module</th>
<th>Main view</th>
<th>More views</th>
<th>Time interval</th>
<th>Full screen mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control station</td>
<td>✓</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Productivity</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Runtime</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Job</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Routing</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Select the desired module in the **Module** selection list.
2. Select the required view in the **View** list.
3. If the **Runtime** or **Productivity** module has been selected, select the required time interval in the **Time interval** selection list.
4. Enable **Open in full screen mode** if **WERMA-WIN** is to be started in full-screen mode.
5. Click on **OK** to save the settings.

### 3.7.1.3 Minimising program window in the system tray

The minimised **WERMA-WIN** program window can be displayed in the taskbar (Windows standard) or in the system tray.

To display the minimised **WERMA-WIN** program window in the system tray.

1. Enable **Display minimised window only in the system tray**.
2. Click on **OK** to save the settings.

### 3.7.1.4 Updates

**WERMA-WIN** can search for updates after every program startup.

1. Enable **Search for product updates at Startup of WERMA-WIN**.
2. Click on **OK** to save the settings.
The computer must be connected to the internet and must be able to access www.werma.com to search for updates.

### 3.7.1.5 General statuses

The descriptions and colours of the general statuses Off and Connection error can be adapted individually.

1. Select one of the default texts in the Off or Connection error selection list or enter an individual text.
2. Click on Select colour and define the required colour.
3. Click on OK to save the settings.

### 3.7.1.6 Shift selection default setting

The setting in the Shift filter can be set as a default system-wide for the Runtime and Productivity modules.

1. Select the required option.
2. Click on OK to save the settings.
   → The selected setting is used as the default in the Shift filter in the Runtime and Productivity modules.

### 3.7.2 Views

The views of the Control station, Productivity and Runtime modules can be created and adapted in the Views tab.
The following functions are possible:
- Add views
- Copy views
- Rename views
- Sort views
- Delete views

### 3.7.2.1 Adding a view

1. Click on **Add**.
   → The *Create view* window appears.

2. Enter the name of the view in the **Name** field.

   *If the name of the view contains a &amp; then it must be entered as **&amp;**. The name Warehouse 1 & Warehouse 2, for example, must be entered as Warehouse 1 **&amp;** Warehouse 2.*

3. Click on **OK** to add the view.

### 3.7.2.2 Copying views

1. In the list of views, select the view to be copied.

2. Click on **Copy**.
   → The *Copy view* window appears.
3. In the **Name** field, adapt the name of the view.
4. Click on **OK** to copy the view.

### 3.7.2.3 Renaming views

1. In the list of views, select the desired view.
2. Click on **Edit**.
   → The **Edit view** window appears.
3. In the **Name** field, adapt the name of the view.

   If the name of the view contains a &, then it must be entered as &&. The name Warehouse 1 & Warehouse 2, for example, must be entered as `Warehouse 1 && Warehouse 2`.

4. Click on **OK** to save the setting.

### 3.7.2.4 Sorting views

You can adapt the order of the views in the toolbar.
1. In the list of views, select the desired view.
2. Click **Move up** or **Move down** to move the view.

   Views arranged at the top of the list of view appear first in the toolbar.

### 3.7.2.5 Deleting views

1. In the list of views, select the view to be deleted.
2. Click **Delete**.
3. Confirm the prompt with **Yes**.
3.7.3 Status transmission

A status transmission can be enabled by e-mail for individual WIN slaves in the Control station module. The necessary settings can be modified in the Status transmission tab. The transfer of the status transmission to an external program using WINtoApplication can also be configured.

The following settings are possible:
- Disable e-mail transmission
- Modify settings of integrated e-mail transmission function
- Configure own SMTP server for the transmission of e-mails
- Modify message texts
- Configure WINtoApplication

3.7.3.1 Disabling e-mail transmission

1. Click on Edit.
   - The E-mail settings window appears.
2. Select **Disable mail transmission** option.
3. Click on **OK** to save the setting.

### 3.7.3.2 Integrated transmission function

The e-mail transmission function integrated in WERMA-WIN is restricted as follows:
- Max. 10 recipients per e-mail
- Max. 100 different recipients in seven days
- Max. 240 e-mails in 4 hours

If more than 240 e-mails are sent in 4 hours, then message delivery is interrupted for one hour. The messages that accumulate during the interruption are not subsequently sent. Transmission using your own SMTP server is recommended if the transmission function is to be used beyond these limits.

1. Click on **Edit**.
   → The **E-Mail settings** window appears.
2. Select **Send an e-mail via built-in transmitting feature (recommended)** option.

3. Enter e-mail recipients in the **Recipient** field.

   **Multiple recipients are separated by a semicolon (;).**

   **If no e-mail recipient is specified, the recipient must be specified when enabling status transmission for the respective WIN slave.**

4. Adapt the **Web proxy** by clicking on **Configure...** if necessary.

   **Clicking on **Send test E-Mail** sends a test e-mail to test the settings entered.**

5. Click on **OK** to save the settings.

**Configuring the web proxy**

If a web proxy is used in the network, the access data can be entered in the **Configuration of web proxy** window.
1. Enter access data into the respective fields.

Your network administrator will provide the requisite data.

2. Click on Check.
   → WERMA-WIN checks the entered data.

3. Click on OK to save the settings.

3.7.3.3 Custom SMTP server

1. Click on Edit.
   → The E-mail settings window appears.
2. Select **Send an e-mail with your own SMTP server** option. 
   → The fields to adapt your custom SMTP server appear.

3. Enter e-mail recipients in the **Recipient** field.
Multiple recipients are separated by a semicolon (;).

4. Enter the sender address in the Sender field.
5. Enter the details of your SMTP server in the respective fields in the Your E-Mail server data and Access data (if required) areas.

Your network administrator or internet provider can provide the requisite data.

Clicking on Send test E-Mail sends a test e-mail to test the settings entered.

6. Click on OK to save the settings.

3.7.3.4 Modifying message texts

The subject and the text of the e-mail can be modified by pasting individual texts and different placeholders.

1. Call up the Message tab.

2. Enter the text and placeholders required in the Subject and Message fields.
Clicking on **Reset** resets the subject and the message text to the default values.

3. Click on **OK** to save the setting.

**Example of a message text:**

The WIN slave %name% changed its status at %time%.
Tier 4 (%statename4%): %state4%
Tier 3 (%statename3%): %state3%
Tier 2 (%statename2%): %state2%
Tier 1 (%statename1%): %state1%

**Placeholders/Parameters**

The following placeholders/parameters are available:

<table>
<thead>
<tr>
<th>Placeholders/Parameters</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>%slaveid%</td>
<td>ID of the WIN slave</td>
</tr>
<tr>
<td>%name%</td>
<td>Description of the WIN slave</td>
</tr>
<tr>
<td>%time%</td>
<td>Date and time of status transmission</td>
</tr>
<tr>
<td>%reason%</td>
<td>Reason for status transmission</td>
</tr>
<tr>
<td>%state1%</td>
<td>Status of tier 1</td>
</tr>
<tr>
<td>%state2%</td>
<td>Status of tier 2</td>
</tr>
<tr>
<td>%state3%</td>
<td>Status of tier 3</td>
</tr>
<tr>
<td>%state4%</td>
<td>Status of tier 4</td>
</tr>
<tr>
<td>%statename1%</td>
<td>Description of tier 1</td>
</tr>
<tr>
<td>%statename2%</td>
<td>Description of tier 2</td>
</tr>
<tr>
<td>%statename3%</td>
<td>Description of tier 3</td>
</tr>
<tr>
<td>%statename4%</td>
<td>Description of tier 4</td>
</tr>
<tr>
<td>%counter%</td>
<td>Counter status of the job</td>
</tr>
<tr>
<td>%order-id%</td>
<td>Job ID</td>
</tr>
<tr>
<td>%order-number%</td>
<td>Job number</td>
</tr>
<tr>
<td>%order-description%</td>
<td>Description of job</td>
</tr>
<tr>
<td>%order-total%</td>
<td>Total amount of job</td>
</tr>
<tr>
<td>%order-progression%</td>
<td>Job progression</td>
</tr>
</tbody>
</table>

**3.7.4 Sound**

Status change messages can be indicated by playing an individual signal tone.
WERMA-WIN offers a pre-selection of signalling sounds. An overview of the pre-selection is displayed by clicking on ?.

1. Select which sound is to be played when a status change message appears.
2. Select the Selected sound option and click on Browse to play an individual sound.
3. Select the file in the appropriate format and click on Open.

Files in the popular audio formats (.mp3, .wav etc.) can be used.

The selected sound can be tested by clicking on Play and Stop.

4. Click on OK to save the settings.

3.7.5 Reports

Individual headers and footers can be saved for reports.
1. In the **Company name** field, enter the text for the footer.

2. Click **Select** to paste an individual company logo into the header.

   - **tip** Graphics in the popular graphic formats (.jpg, .png etc.) can be used.
     The graphic file may not exceed 1 MB. The height and width are each restricted to 2,000 pixels.

   - **tip** Clicking **Reset** resets all settings to the default settings (WERMA logo and WERMA company name).

3. Click on **OK** to save the settings.

### 3.7.6 WIN devices

WERMA-WIN devices which are no longer in the WERMA-WIN network can be deleted. All data recorded by these devices will be deleted from the WERMA-WIN database.
WIN masters can only be deleted if the power supply to the WIN master is disconnected. WIN slaves can only be deleted if the power supply to the WIN slave is disconnected.

1. In the list of WERMA-WIN devices, select the WERMA-WIN device to be deleted.

Several WERMA-WIN devices can be selected by pressing CTRL.

2. Click **Delete**.
3. Confirm the prompt with **Yes**.

### 3.7.7 Database

Various settings of the WERMA-WIN database can be adapted and the device data backed up or imported in the **Database** tab.
The following functions are available:
- Adapt connection settings in the Database assistant
- Export devices
- Import devices
- Create link file
- Clean old data

3.7.7.1 Database assistant

The database assistant can be used to edit the connection settings for the database.

Administrator rights are needed to install Database assistant.

1. Click on Database assistant.
2. Confirm the prompt with Yes.

→ WERMA-WIN is completed and the assistant appears to set up the database.
The wizard to set up the database offers the following functions:

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use local database server</td>
<td>Reset existing connection settings.</td>
</tr>
<tr>
<td>Connect database</td>
<td>Connect to an existing WERMA-WIN database and thus enable multi-user access to the database.</td>
</tr>
<tr>
<td>IT expert installation</td>
<td>Enable Expert installation and adapt the saved connection settings.</td>
</tr>
<tr>
<td>Save Link File to…</td>
<td>Save the link file to connect other workplaces to the WERMA-WIN database.</td>
</tr>
</tbody>
</table>

### 3.7.7.2 Exporting devices

All device configurations and switching rules can be exported to apply all configured WERMA-WIN devices from an existing installation to a new installation or to another workplace.

1. Click on Export devices.
2. Select the filename and storage location for the export file.
3. Click on Save.

### 3.7.7.3 Importing devices

During import, all existing device configurations and switching rules are overwritten.

1. Click on Import devices.
2. Select the saved export file.
3. Click on Open.
4. Confirm the prompt with Yes.

3.7.7.4 Creating a link file

The link file lets you connect other WERMA-WIN installations on other workplaces to the WERMA-WIN database.

1. Click on Save link file.
2. Select the file location for the link file.

3.7.7.5 Cleaning data

Old data can be removed and deleted from the WERMA-WIN database. You can specify from what point in time the data is to be kept.

1. Click on Clean data...
   → The Data Removal window appears.
2. Select the time interval from when the data is to be kept.
3. Click on OK.
4. Confirm the prompt with Yes.

3.7.8 Shifts

Shifts can be created and assigned to the individual WIN slave for analysis in the Runtime and Productivity modules.

Different time periods and pause times can be combined in a shift. The time periods can be entered differently for each day of the week and span more than one day.
The **Shifts** list displays all currently available shifts. Deleted shifts are not displayed.

### 3.7.8.1 Setting up a shift

1. Click on **Add**.
   → The **Set up new shift** window appears.

2. Enter the name for the shift in the **Shift name** field.
3. Click on **<please select>** in the **Start** column in the **Working hours** list and select the required day.
4. Enter the time at which the shift is to start in the **Time** column.
5. Select the **Day** and the **Time** at which the shift is to end in the **End** area.
Shifts can be defined to span more than one day, for instance Sunday 22:00 until Monday 05:00.

Pause times can be defined by leaving corresponding gaps in the time periods on a respective day.

6. Press the Tab key to enter a new line.
7. Enter the times for all other days.
8. Click on OK to save the shift.

You can also assign shifts to the individual WIN slave in the Control station module in the Configuration.

### 3.7.8.2 Modifying shifts

If a shift, which is already assigned to a machine, is to be changed, then the changes will have a retrospective impact on all analysis, representations and reports. No history is saved of the changes to the shift.

WERMA recommends that you do not change shifts and, instead, create a new shift.

1. Select the required shift in the Shifts list.
2. Click on Edit. → The Edit shift window appears.
3. Modify the shift as required.
4. Click on **OK** to save the settings.

### 3.7.8.3 Copying shifts

1. Select the shift to be copied in the **Shifts** list.
2. Click on **Copy**.
   → The **Copy shift** window appears.

![Copy shift window](image)

3. Modify the name of the shift in the **Shift name** field.

Modify the **Time periods** of the shift if you need to.
4. Click on **OK** to copy the shift.

### 3.7.8.4 Sorting shifts

1. Select the required shift in the **Shifts** list.
2. Click **Move up** or **Move down** to move the shift.

   ![Shifts list](image)

   **i** Shifts arranged at the top of the list appear first in the selection list in the **Productivity** module.

### 3.7.8.5 Deleting shifts

- **i** If a shift is to be deleted that is not assigned to a machine, then the data will be fully deleted from the database.
- If a shift is to be deleted that is assigned to a machine, then the data is retained. The shift will no longer be displayed in the **Shifts** list.

1. Select the shift to be deleted in the **Shifts** list.
2. Click on **Delete**.
3. Confirm the prompt with **Yes**.

### 3.7.9 Fault conditions

Company-specific fault conditions (e.g. lack of material) can be defined for the creation of notes in the **Runtime** module. When an error occurs, it is possible to select from the predefined fault conditions.

**Use touch interface to assign fault conditions** must be enabled to show the display version for the **Touch interface** instead of the **Edit note** window in the event of an error. A defined fault condition can only be selected in this case.
3.7.9.1 Adding fault conditions

1. Click on Add.
   → The Enter fault condition window appears.

2. Enter the fault condition in the Description field.
3. Select a Colour for the fault condition.
4. Enter additional information in the Additional note field if necessary.
5. Click on OK to save the settings.

3.7.9.2 Modifying fault conditions

1. Select the required fault condition in the list of fault conditions.
2. Click on Edit.
   → The Edit fault condition window appears.

3. Modify the fault condition as required.
4. Click on OK to save the settings.

3.7.9.3 Collating fault conditions

1. Select the required fault condition in the list of fault conditions.
2. Click on Move up or Move down to move the fault conditions.
Fault conditions arranged at the top of the list of fault conditions appear first in the selection list in the Runtime module.

### 3.7.9.4 Deleting fault conditions

1. In the list of fault conditions, select the fault condition to be deleted.
2. Click Delete.
3. Confirm the prompt with Yes.

### 3.7.10 Functions

Complete modules or individual functions of modules that are to be available at a workplace can be enabled or disabled in the Functions tab.

**Settings** can also be protected by a password to prevent unauthorised access.

![Setting window with options to enable or disable functions](image)

#### 3.7.10.1 Enabling and disabling modules or functions

All the functions of the module are disable as soon as a module is disabled. This also applies to functions where the checkbox is enabled in the **Enabled** column.

**Enabling modules**

1. Enable the checkbox beside the required module in the list.
2. Click on OK to save the settings.

Enabling individual functions of a module
1. Enable the checkbox beside the required function in the list.

2. Click on OK to save the settings.

Disabling modules
1. Disable the checkbox beside the required module in the list.

2. Click on OK to save the settings.

Disabling individual functions of a module
1. Disable the checkbox beside the required function in the list.

2. Click on OK to save the settings.

3.7.10.2 Protecting settings with a password
1. Click on Define.
   → The Enter password window appears.
2. Enter the existing password in the **Old password** field.

   If no password has been assigned, leave the **Old password** field empty.

3. Enter a new password in the **New password** field and in the **Repetition** field.
4. Click on **OK** to protect the settings with the password entered.

### 3.7.10.3 Deleting a password

You can delete a password if access to the settings is to be possible again without a password once a password has been set.

1. Click on **Delete**.
2. Confirm the prompt with **Yes**.

### 3.7.10.4 Resetting a password

You can reset the password system-wide if you have lost the password and you can no longer open the settings.

1. Open the **WERMA-WIN Administration Console** on the server PC.
2. In the toolbar, click on **Reset password**.

3. Enable **I have understood and wish to reset the system password**.

4. Click on **Reset password**.

   The settings can be changed by all users once the password has been reset. WERMA recommends immediately **issuing a new password**.

### 3.8 Reports and exports

In the print preview, the export can be adapted or exported before printing.

- Company name and logo can be modified under **Settings**.
### Function

#### Print

- **Print**
  - Print report.
  - The print settings can be adapted.

- **Quick Print**
  - Print report on the default printer without adapting print settings.

#### Page Settings

- **Scale**
  - Zoom into or zoom out of the report as a percentage or to page width.

- **Margins**
  - Adapt page margins.

- **Orientation**
  - Adapt page orientation (portrait or landscape).

- **Size**
  - Adapt paper size of the report.

**Note:** All reports are optimised for A4.

#### Navigation

- **Find**
  - Search for text in the report.

- **Thumbnails**
  - Show and hide miniature view of the report.

- **First Page**
  - Move to first page.

- **Previous Page**
  - Move to previous page.

- **Next Page**
  - Move to next page.
<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Last Page" /></td>
<td>Move to last page.</td>
</tr>
<tr>
<td><img src="image" alt="Enable Default Cursor" /></td>
<td>Enable default cursor.</td>
</tr>
<tr>
<td><img src="image" alt="Enable Hand Cursor" /></td>
<td>Enable the hand cursor to drag the print preview of the report with the cursor.</td>
</tr>
<tr>
<td><img src="image" alt="Select Zoom Cursor" /></td>
<td>Select the zoom cursor to zoom out of or zoom into the print preview.</td>
</tr>
<tr>
<td><img src="image" alt="Display Multiple Pages" /></td>
<td>Display multiple pages in the print preview.</td>
</tr>
<tr>
<td><img src="image" alt="Zoom Out" /></td>
<td>Zoom out of print preview.</td>
</tr>
<tr>
<td><img src="image" alt="Set Zoom to Fixed Value" /></td>
<td>Set zoom to a fixed value.</td>
</tr>
<tr>
<td><img src="image" alt="Zoom In" /></td>
<td>Zoom into print preview.</td>
</tr>
</tbody>
</table>
| ![Paste Watermark](image) | Paste a watermark into a report.  
Delete a watermark in a report. |
| ![Export Report](image) | Export report.  
The export file format can be selected. |
| ![Send Report as E-mail Attachment](image) | Send report as e-mail attachment.  
The e-mail attachment file format can be selected. |
| ![Close Print Preview](image) | Close print preview. |

### 3.8.1 Pasting a Watermark

An individual text, an image or a combination of text and image can be used as a watermark.

1. Click on Watermark in the toolbar.  
   → The Watermark window appears.
2. Enter the text on the Text tab and format it as required.
3. Upload a picture on the Picture tab and format it as required.
4. Select the position of the watermark in the Position area.
5. In the Page range area, select the pages on which the watermark is to be inserted.

   Multiple single pages are separated by a semicolon (;) (e.g. 3;5;7).
   Page ranges are specified by a dash (e.g. 3-5)

6. Click on OK to paste the watermark.

### 3.8.2 Deleting a watermark

1. Click on Watermark in the toolbar.

   → The Watermark window appears.
2. Click on Clear All to delete the watermark.
3. Click OK to apply the settings.

### 3.8.3 File formats

The following file formats are available for export and as an e-mail attachment:

<table>
<thead>
<tr>
<th>File format</th>
<th>Export</th>
<th>E-mail attachment</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDF file</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>HTML file</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>DOCX file</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Excel 2007 document</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>CSV file</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Picture file</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

### 3.8.3.1 PDF export options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Page range</td>
<td>Limit page range for export with multi-page reports (e.g. 2–4).</td>
</tr>
<tr>
<td>Don’t embed these fonts</td>
<td></td>
</tr>
<tr>
<td>Export editing fields to AcroForms</td>
<td>Export editing fields for AcroForms.</td>
</tr>
<tr>
<td>Convert images to JPEG</td>
<td>Convert images to JPEG when exporting.</td>
</tr>
<tr>
<td>Image quality</td>
<td>Adjust image quality. A higher quality generates larger PDF files.</td>
</tr>
<tr>
<td>PDF/A compatibility</td>
<td>Select compatibility of the PDF file.</td>
</tr>
</tbody>
</table>
### Option Description

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Password security</td>
<td>Protect PDF file with password.</td>
</tr>
<tr>
<td>Digital signature</td>
<td>Sign PDF file with a digital signature</td>
</tr>
<tr>
<td>Application</td>
<td>Name of the application that created the PDF (e.g. WIN) WERMA-WIN</td>
</tr>
<tr>
<td>Author</td>
<td>Author of the author of the exported PDF file</td>
</tr>
<tr>
<td>Keywords</td>
<td>Keywords for description of the contents</td>
</tr>
<tr>
<td>Subject</td>
<td>Subject c</td>
</tr>
<tr>
<td>Title</td>
<td>Title of the exported PDF file</td>
</tr>
</tbody>
</table>

### 3.8.3.2 HTML export options

![HTML Export Options](image)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Export mode</td>
<td><strong>Single file</strong> Export report as a single file.</td>
</tr>
<tr>
<td></td>
<td><strong>Single file page-by-page</strong> Export report as a single file. The individual pages are formatted as shown in the preview.</td>
</tr>
<tr>
<td></td>
<td><strong>Different files</strong> Export each page of the report as a separate HTML file.</td>
</tr>
<tr>
<td>Page range</td>
<td>Limit page range for export with multi-page reports (e.g. 2–4).</td>
</tr>
<tr>
<td>Page border color</td>
<td>Define the colour of the page margins.</td>
</tr>
<tr>
<td>Page border width</td>
<td>Define width of page margins.</td>
</tr>
<tr>
<td>Title</td>
<td>Define the title of the export.</td>
</tr>
<tr>
<td>Character set</td>
<td>Define the character set of the export.</td>
</tr>
<tr>
<td>Remove carriage returns</td>
<td>Delete line breaks in HTML code.</td>
</tr>
<tr>
<td>Table layout</td>
<td>Use tables for export layout</td>
</tr>
<tr>
<td>Export watermarks</td>
<td>Issue watermark with export</td>
</tr>
<tr>
<td>Embed images in HTML</td>
<td>Integrate images into the HTML file and do not save in a separate image folder.</td>
</tr>
</tbody>
</table>
### 3.8.3.3 DOCX export options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Export mode</td>
<td><strong>Single file</strong> Export report as a single continuous file.</td>
</tr>
<tr>
<td></td>
<td><strong>Single file page-by-page</strong> Export report as a single file. The individual pages are formatted as shown in the preview.</td>
</tr>
<tr>
<td>Page range</td>
<td>Limit page range for export with multi-page reports (e.g. 2–4).</td>
</tr>
<tr>
<td>Table layout</td>
<td>Use tables for export layout</td>
</tr>
<tr>
<td>Keep row height</td>
<td>Maintain line height for export with table layout</td>
</tr>
<tr>
<td>Export watermarks</td>
<td>Issue watermark with export</td>
</tr>
</tbody>
</table>

### 3.8.3.4 XLSX export options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Export data only</td>
<td>Export data unformatted.</td>
</tr>
<tr>
<td>Localised column headings</td>
<td>Translate column headings.</td>
</tr>
<tr>
<td>Dates according to ISO 8601</td>
<td>Format dates according to ISO-8601 format.</td>
</tr>
<tr>
<td>Formatted output</td>
<td>Export data with formatting.</td>
</tr>
<tr>
<td>Export mode</td>
<td><strong>Single file</strong> Export report as a single file.</td>
</tr>
</tbody>
</table>

---

310.860.001
<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single file page-by-page</td>
<td>Export report as a single file. The individual pages are formatted as shown in the preview.</td>
</tr>
<tr>
<td>Limit page range for export with multi-page reports (e.g. 2-4).</td>
<td></td>
</tr>
<tr>
<td>Text export mode</td>
<td>Text</td>
</tr>
<tr>
<td>Issue values (e.g. dates) as text.</td>
<td></td>
</tr>
<tr>
<td>Value</td>
<td>Issue values (e.g. dates) as values with user-defined number format.</td>
</tr>
<tr>
<td>Show table lines</td>
<td>Show or hide grid lines in Microsoft® Excel.</td>
</tr>
</tbody>
</table>

### 3.8.3.5 CSV export options

![CSV export options](image)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delimiter</td>
<td>Define delimiters between the individual values.</td>
</tr>
</tbody>
</table>
3.8.3.6 Image export options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Image format</strong></td>
<td>Define the file format of the graphics export. Possible formats:</td>
</tr>
<tr>
<td></td>
<td>– BMP</td>
</tr>
<tr>
<td></td>
<td>– EMF</td>
</tr>
<tr>
<td></td>
<td>– WMF</td>
</tr>
<tr>
<td></td>
<td>– GIF</td>
</tr>
<tr>
<td></td>
<td>– JPEG</td>
</tr>
<tr>
<td></td>
<td>– PNG</td>
</tr>
<tr>
<td></td>
<td>– TIFF</td>
</tr>
<tr>
<td><strong>Resolution (dpi)</strong></td>
<td>Define the resolution of the graphics export. The higher the resolution, the better the image quality of the export, but the larger the file size of the export file.</td>
</tr>
<tr>
<td><strong>Export mode</strong></td>
<td>Single file Export report as a single file.</td>
</tr>
<tr>
<td></td>
<td>Single file page-by-page Export report as a single file. The individual pages are formatted as shown in the preview.</td>
</tr>
<tr>
<td></td>
<td>Different files Export each page of the report as a separate file.</td>
</tr>
<tr>
<td><strong>Page range</strong></td>
<td>Limit page range for export with multi-page reports (e.g. 2-4).</td>
</tr>
<tr>
<td><strong>Page border color</strong></td>
<td>Define the colour of the page margins.</td>
</tr>
<tr>
<td><strong>Page border width</strong></td>
<td>Define width of page margins.</td>
</tr>
</tbody>
</table>
4 Automation interfaces

WERMA-WIN has 3 automation interfaces.

The XML interface makes it possible to make data available to third-party programs or to import data from a third-party program into WERMA-WIN.

The WINtoApplication makes it possible for the statuses of a signal tower to be transmitted to an external application.

The WERMA-WIN CLI Tool makes it possible for external applications to switch a WIN slave control controlled by the program.

4.1 XML interface

The XML interface consists of an export and an import module. It is possible to enable or disable both modules separately.

Information about imports and exports currently in progress as well as the status of the XML interface is displayed in the Interface status area.

The XML interface is set up on the (server) PC on which the WERMA-WIN server service is executed.

For optimum availability of the XML interface, WERMA recommends:

- Saving the export file or import file on a local data medium (not on a network drive).
- Setting up an exception in the virus scanner for the export file and the import directory so that the export file is not completely scanned on every export.
- Setting up write authorisation for the WERMA-WIN server service for the directory. The WERMA-WIN server service is executed under Windows user account Network Service.

WERMA-WIN does not archive the exported data. For error analysis purposes, WERMA recommends archiving the XML export files in the external system.

4.1.1 Export

During the export process changes to statuses, counter values and jobs are exported incrementally to an XML file. This sees a record written to the XML file for each change.

4.1.1.1 Configuring the XML interface

1. WERMA-WIN Open the Administration Console on the server PC.
2. In the Interfaces area of the toolbar, click on XML interface.
   → The XML interface window appears.

3. Select the Export tab.

4. In the Configuration area click on Search then select the file location and also enter the name of the XML file.
5. If required, enter the system ID of the WERMA-WIN system in the field **System ID**.

   - Entering the system ID makes it possible to unambiguously identify different WERMA-WIN systems while processing the data.

### 4.1.1.2 Enabling the XML interface

1. Click on **Enable**.

   - If the XML interface is enabled for the first time, WERMA recommends performing a one-off **manual** export of the data.

### 4.1.1.3 Disabling the XML interface

1. Click on **Disable**.

   - WERMA-WIN does not archive the exported data. For error analysis purposes, WERMA recommends archiving the XML export files in the external system.

### 4.1.1.4 Element and attribute description

   - WERMA recommends that you ignore unknown elements and attributes when processing the XML export file.

#### General attributes

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Data type</th>
<th>Description</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>rowid</td>
<td>[bigint]</td>
<td>This is increased consecutively with each exported record; it is unique for each record. The external system should import each rowid only once to detect duplicates in the event an error occurs. rowid can be</td>
<td></td>
</tr>
<tr>
<td>Attributes</td>
<td>Data type</td>
<td>Description</td>
<td>Values</td>
</tr>
<tr>
<td>------------</td>
<td>------------</td>
<td>-------------</td>
<td>--------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>used as the primary key for the data records</td>
<td></td>
</tr>
<tr>
<td>timestamp</td>
<td>[datetime]</td>
<td>Time stamp in ISO 8601 format</td>
<td></td>
</tr>
<tr>
<td>refid</td>
<td></td>
<td>The refid specifies the internal ID in the WERMA-WIN database when database objects are exported directly.</td>
<td></td>
</tr>
</tbody>
</table>

<data>

<data> contains all export data.

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Data type</th>
<th>Description</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>version</td>
<td>[nvarchar]</td>
<td>Version of the XML schema definition</td>
<td>(20)</td>
</tr>
<tr>
<td>systemid</td>
<td>[nvarchar]</td>
<td>System ID, which was configured in the WERMA-WIN Administration Console.</td>
<td>(25)</td>
</tr>
<tr>
<td>appname</td>
<td>[nvarchar]</td>
<td>Name of the exporting application</td>
<td>(max)</td>
</tr>
<tr>
<td>appversion</td>
<td>[nvarchar]</td>
<td>Version number of the exporting application</td>
<td>(20)</td>
</tr>
</tbody>
</table>

<slaverref>

Reference to a WIN slave. It is possible to use the refid or the macid to unequivocally identify a WIN slave.

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Data type</th>
<th>Description</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>refid</td>
<td>[smallint]</td>
<td>The refid specifies the internal ID in the WERMA-WIN database when database objects are exported directly.</td>
<td></td>
</tr>
<tr>
<td>macid</td>
<td>[nvarchar]</td>
<td>Assignment to a WIN slave via the</td>
<td>(6)</td>
</tr>
</tbody>
</table>
<slavestate>

A new status was received for a WIN slave.

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Data type</th>
<th>Description</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>tier1</td>
<td>[tinyint]</td>
<td>Status tier 1</td>
<td>0 = Off = Off, 1 = On = On</td>
</tr>
<tr>
<td>tier2</td>
<td>[tinyint]</td>
<td>Status tier 2</td>
<td>2 = Blinking = Blinking</td>
</tr>
<tr>
<td>tier3</td>
<td>[tinyint]</td>
<td>Status tier 3</td>
<td>3 = [Error] = Connection error</td>
</tr>
<tr>
<td>tier4</td>
<td>[tinyint]</td>
<td>Status tier 4</td>
<td></td>
</tr>
</tbody>
</table>

<counterinfo>

A new counter value was received for a WIN slave performance, the counter was manually reset, or a job was started or completed.

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Data type</th>
<th>Description</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>tier</td>
<td>[tinyint]</td>
<td>Configured counter tier</td>
<td>1 = Tier 1, 2 = Tier 2, 3 = Tier 3, 4 = Tier 4</td>
</tr>
<tr>
<td>value</td>
<td>[int]</td>
<td>Counter status, display in control station</td>
<td>Value &gt;= 0</td>
</tr>
<tr>
<td>orderrefid</td>
<td>[int]</td>
<td>Reference to an internal job ID</td>
<td></td>
</tr>
</tbody>
</table>

<order>

<order> contains data belonging to a job.

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Data type</th>
<th>Description</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>orderid</td>
<td>[int]</td>
<td>Job ID generated by WERMA-WIN</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>The job ID is displayed in the job module.</td>
<td></td>
</tr>
<tr>
<td>refid</td>
<td>[int]</td>
<td>The refid specifies</td>
<td></td>
</tr>
<tr>
<td>Attributes</td>
<td>Data type</td>
<td>Description</td>
<td>Values</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
<td>----------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>number</td>
<td>[nvarchar]</td>
<td>Selected job number</td>
<td>60</td>
</tr>
<tr>
<td>description</td>
<td>[nvarchar]</td>
<td>Selected job name</td>
<td>250</td>
</tr>
</tbody>
</table>
| state        | [tinyint]   | Current job status                                                         | 1 = Waiting = Only created  
2 = Processing = In progress  
3 = Completed = Completed  
4 = WaitForStart (see waitmode) |
| waitmode     | [tinyint]   | If state = 4, the wait-mode indicates when the job will be started.        | 0 = Counter = Start with next piece  
1 = Signal = Start, as soon as job input tier is enabled |
| targetamount | [decimal]   | Plan quantity                                                              | 18.3                                                                |
| piecespersignal | [decimal] | Factor (number of pieces per cycle)                                        | 18.3                                                                |
| timepersignal | [decimal]  | Plan cycle time in seconds                                                 | 18.1                                                                |
| targetsetuptime | [int]    | Plan set up time in minutes                                                |                                                                     |
| amountcorrection | [decimal] | Actual correction (piece)                                                  | 18.3                                                                |
| realbegintime | [datetime] | Time when the job was started (or empty character string)                 |                                                                     |
| realendtime   | [datetime]  | Time when the job was ended (or empty character string)                    |                                                                     |
| realsetuptime | [int]       | Actual set up time                                                         |                                                                     |
| realamount   | [decimal]   | Actual quantity                                                            | 18.3                                                                |
### Attributes

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Data type</th>
<th>Description</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>autostoptimeenabled</td>
<td>[bit]</td>
<td>The job is completed automatically taking into consideration:</td>
<td>0 = Job will not be completed 1 = Job will be completed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– autoStopTime</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>– autostoptimedays</td>
<td></td>
</tr>
<tr>
<td>autostoptime</td>
<td>[datetime]</td>
<td>Time at which the job is to be exited automatically</td>
<td></td>
</tr>
<tr>
<td>autostoptimedays</td>
<td>[int]</td>
<td>Specifies after how many days the job is to be ended.</td>
<td></td>
</tr>
<tr>
<td>autostoptargetamount</td>
<td>[bit]</td>
<td>Job is completed automatically as soon as the plan quantity is reached.</td>
<td>0 = Job will not be completed 1 = Job will be completed</td>
</tr>
</tbody>
</table>

### <deleteinfo>

<deleteinfo> flags a record as deleted.

### <sync>

<sync> highlights the start and the end of the XML export.

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Data type</th>
<th>Description</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>state</td>
<td></td>
<td>Specifies if the sync tag stands for the start (started) or the end (com-</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>pleted) of the synchronisation.</td>
<td></td>
</tr>
<tr>
<td>syncid</td>
<td></td>
<td>Unambiguous GUID to assign the sync end to the start.</td>
<td></td>
</tr>
</tbody>
</table>
4.1.1.5 Example – XML export file

Example of an XML export file

```xml
<root>
  <example>
    <data>
      <value>4.4.4.4.4</value>
    </data>
  </example>
  <example>
    <data>
      <value>4.4.4.4.4</value>
    </data>
  </example>
</root>
```

4.1.1.6 Accessing the XML export

WERMA-WIN regularly opens the XML export file for write access purposes only and to check if the XML export file can be overwritten. Consequently, the XML export file must be renamed before the XML export file can be processed by an external system.

If the XML export file was renamed, WERMA-WIN creates a new file when the next export is run.

1. If WERMA-WIN has opened the XML export file, it cannot be renamed. In that case the external system must make several attempts to rename the XML export file.

Access can be granted to the XML export file in accordance with the following diagram:
To prevent a new XML export file from being created after it has been renamed, although no data needs to be processed, WERMA recommends only renaming and processing the XML export file as soon as its size exceeds 120 bytes. An empty XML export file without exported data is approx. 120 bytes in size (depending on the stored system ID).

WERMA-WIN exports new data within a few milliseconds. If the external system is to process the data very quickly, WERMA recommends using the Windows API to monitor the file system or rather the XML export file (for example with .NET FileSystemWatcher). In this case, WERMA recommends not checking the size of the file and processing the XML export file immediately after it has been created.

4.1.1.7 Exporting data manually

The manual export serves as initial synchronisation after the XML interface has been enabled for the first time. This exports all tier statuses, counter statuses and jobs. It is then subsequently possible to use the automated export interface.

1. Configuring the XML interface.
2. Click Export in the Export current conditions area.
Manual export can take some time depending on the quantity of jobs.

4.1.2 Import

During the import process WERMA-WIN reads in data from an XML file. The XML file can contain several data records. The data records to be imported can be different data record types, for example, Set up job or Start job. Each data record is processed individually.

An import report is created for each imported file in the form of an XML file and saved in a dedicated directory. The filename is suffixed with -result.

4.1.2.1 Configuring the XML interface

The filenames of the XML files to be imported in the import directory must observe a specified schema.

An example shows the structure of the XML import file.

1. Open the WERMA-WIN Administration Console on the server PC.
2. In the **Interfaces** area of the toolbar, click on **XML interface**.
   → The **XML interface** window appears.

3. Select the **Import** tab.

4. In the **Configuration** area click on **Search** and select **Import directory**.
5. Select **Results directory**, in which a results file of every imported XML file is saved.

   - The *Results file* can be processed by the external system as feedback.

6. Select **Archive directory**, into which the processed XML files are moved.

7. In the **Number of days after which files will be from the archive** field, specify how long archived files should be kept.

### 4.1.2.2 Enabling the XML interface

1. Click on **Enable**.

### 4.1.2.3 Disabling the XML interface

1. Click on **Disable**.

   - **i** WERMA-WIN does not archive the exported data. For error analysis purposes, WERMA recommends archiving the XML export files in the external system.

### 4.1.2.4 Element and attribute description

#### General attributes

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Data type</th>
<th>Description</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>rowid</td>
<td>[nvarchar]</td>
<td>The rowid is used for the record in the results file.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(60)</td>
<td>The external system is able to assign the rowid as required (max. 60 characters).</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>The rowid for each respective import file must be unambiguous.</td>
<td></td>
</tr>
<tr>
<td>timestamp</td>
<td>[datetime]</td>
<td>Time stamp in ISO 8601 format Date entries are evaluated as local time/time zone.</td>
<td></td>
</tr>
</tbody>
</table>
### Attributes

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Data type</th>
<th>Description</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Example: 31.12.2017 19:00:00 = 2017-12-31T19:00:00</td>
<td></td>
</tr>
</tbody>
</table>

**<data>**

*<data>* contains all export data.

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Data type</th>
<th>Description</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>version</td>
<td>[nvarchar] (20)</td>
<td>Version of the XML schema definition</td>
<td></td>
</tr>
<tr>
<td>appname</td>
<td>[nvarchar] (max)</td>
<td>Name of the exporting application</td>
<td></td>
</tr>
<tr>
<td>appversion</td>
<td>[nvarchar] (20)</td>
<td>Version number of the exporting application</td>
<td></td>
</tr>
</tbody>
</table>
| cancelonerror | [bit] | Specifies if processing of the import file is to be continued if an import error occurs. | *false = Continue processing with the next record*
|            |          |            | *true = Cancel processing the file* |

**<slaveref>**

Reference to a WIN slave. It is possible to use the *refid* or the *macid* to unequivocally identify a WIN slave.

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Data type</th>
<th>Description</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>refid</td>
<td>[smallint]</td>
<td>Assignment to a WIN slave via the database ID</td>
<td></td>
</tr>
<tr>
<td>macid</td>
<td>[nvarchar] (6)</td>
<td>Assignment to a WIN slave via the wireless MAC address Notation: Lower case letters without hyphens</td>
<td></td>
</tr>
</tbody>
</table>

**<orderref>**

Assignment to a job. Can be selected using *orderid* or *refid*.

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Data type</th>
<th>Description</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>orderid</td>
<td>[int]</td>
<td>The job ID shown</td>
<td></td>
</tr>
</tbody>
</table>
### Attributes

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Data type</th>
<th>Description</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>in the user interface</td>
<td></td>
<td>The orderid is generated continuously. If the job with the highest orderid was deleted, the orderid for the next job is used again.</td>
<td></td>
</tr>
<tr>
<td>refid</td>
<td>[int]</td>
<td>Assignment to a job via the database ID</td>
<td></td>
</tr>
</tbody>
</table>

**Saving a job**

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Data type</th>
<th>Description</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>number</td>
<td>[nvarchar] (60)</td>
<td>Job number</td>
<td>String with 60 characters, no line breaks</td>
</tr>
<tr>
<td>description</td>
<td>[nvarchar] (250)</td>
<td>Job name</td>
<td>String with 250 characters, no line breaks</td>
</tr>
<tr>
<td>targetamount</td>
<td>[decimal] (18.3)</td>
<td>Plan quantity</td>
<td>Integer</td>
</tr>
<tr>
<td>piecespersignal</td>
<td>[decimal] (18.3)</td>
<td>Factor (number of pieces per cycle)</td>
<td>Integer</td>
</tr>
<tr>
<td>timepersignal</td>
<td>[decimal] (18.1)</td>
<td>Plan cycle time in seconds</td>
<td>Decimal number max. one place after the decimal point</td>
</tr>
<tr>
<td>targetsetuptime</td>
<td>[int]</td>
<td>Plan set up time in minutes</td>
<td>Integer</td>
</tr>
</tbody>
</table>
| autostoptargetamount | [bit]    | Exit job automatically when the plan quantity is reached. | true = End job  
                                 |                                  | false = Do not end job          |
| autostoptimeenabled | [bit]    | Exit job automatically when the autostoptime is reached. | true = End job  
                                 |                                  | false = Do not end job          |
| autostoptime       | [datetime] | Time at which the job is completed automatically.    | Date + time: 2017-12-31T19:00:00 |
### Attributes

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Data type</th>
<th>Description</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>autostoptime</td>
<td></td>
<td>evaluates the time only.</td>
<td></td>
</tr>
<tr>
<td>autostoptimedays</td>
<td>[int]</td>
<td>If the job is not to be completed on the start day, it is possible to specify a number of days after which the job will be completed automatically.</td>
<td></td>
</tr>
</tbody>
</table>

1. Do not use the attributes `refid` and `orderid` when saving a new job.

2. A point (.) is used as a decimal separator for decimal numbers.
   Thousands separators are not supported.
   Decimal places are ignored with quantities.

### Editing jobs

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Data type</th>
<th>Description</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>amountcorrection</td>
<td>[int]</td>
<td>Actual correction is added to the quantity determined via clock signal.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>If the actual correction is negative, it is subtracted from the determined quantity.</td>
<td></td>
</tr>
<tr>
<td>realsetuptime</td>
<td>[int]</td>
<td>Actual set up time in minutes</td>
<td></td>
</tr>
</tbody>
</table>

1. If an attribute is not specified, the value stored to date remains valid.
When using the attributes refid and orderid:

– Specify just one of the two attributes when editing a job. If there is an option in the external system to save the refid generated when creating the job, the attribute refid should always be specified for subsequent processing operations. In that case, the attribute orderid need not be transferred.

– If both attributes are specified, both IDs must reference the same job.

Deleting the assignment of a WIN slave

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Description</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>slaveref refid</td>
<td>Delete the assignment of a WIN slave to a job.</td>
<td>empty</td>
</tr>
<tr>
<td>slaveref macid</td>
<td>Delete the assignment of a WIN slave to a job.</td>
<td>empty</td>
</tr>
</tbody>
</table>

Starting jobs

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Description</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>action rowid=&quot;...&quot; type=&quot;order-start&quot;</td>
<td>Start job.</td>
<td></td>
</tr>
<tr>
<td>action orderref refid=&quot;...&quot; type=&quot;order-start&quot;</td>
<td>Start job.</td>
<td></td>
</tr>
<tr>
<td>action orderref oderid=&quot;...&quot; type=&quot;order-start&quot;</td>
<td>Start job.</td>
<td></td>
</tr>
</tbody>
</table>

Changing job to active waiting

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Description</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>action rowid=&quot;...&quot; type=&quot;order-wait-for-start&quot; waitmode=&quot;...&quot;</td>
<td>Please wait for counter input or job input to start the job.</td>
<td></td>
</tr>
<tr>
<td>action orderref refid=&quot;...&quot; type=&quot;order-wait-for-start&quot; waitmode=&quot;...&quot;</td>
<td>Please wait for counter input or job input to start the job.</td>
<td></td>
</tr>
<tr>
<td>action orderref oderid=&quot;...&quot; type=&quot;order-wait-for-start&quot; waitmode=&quot;...&quot;</td>
<td>Please wait for counter input or job input to start the job.</td>
<td></td>
</tr>
<tr>
<td>waitmode</td>
<td>Specification, if a counter input or job input triggers the change.</td>
<td>signal = Job input, counter = Counter input</td>
</tr>
</tbody>
</table>
Ending jobs

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Description</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>action rowid=&quot;...&quot; type=&quot;order-stop&quot;</td>
<td>End job.</td>
<td></td>
</tr>
<tr>
<td>action orderref refid =&quot;...&quot; type=&quot;order-stop&quot;</td>
<td>End job.</td>
<td></td>
</tr>
<tr>
<td>action orderref oderid =&quot;...&quot; type=&quot;order-stop&quot;</td>
<td>End job.</td>
<td></td>
</tr>
</tbody>
</table>

Deleting jobs

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Description</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>action rowid=&quot;...&quot; type=&quot;order-delete&quot;</td>
<td>Delete job.</td>
<td></td>
</tr>
<tr>
<td>action orderref refid =&quot;...&quot; type=&quot;order-delete&quot;</td>
<td>Delete job.</td>
<td></td>
</tr>
<tr>
<td>action orderref oderid =&quot;...&quot; type=&quot;order-delete&quot;</td>
<td>Delete job.</td>
<td></td>
</tr>
</tbody>
</table>

4.1.2.5 Example of an XML import file

```xml
<?xml version="1.0" encoding="utf-8"?>
<order rowid="1" number="AU-4711" description="alloy part 447-256" targetamount="1000" piecespersignal="1" timespersignal="2.5" />
</order>
```

An example of an XML import file is available in the installation directory of WERMA-WIN in the Docs subdirectory.

4.1.2.6 File name

The filename can be assigned as desired; however, it must end with a time stamp corresponding to the format -YYYYMMDDhhmmss and the file extension .xml.

Examples:

- Version: 5.1 - 11/2020
4.1.2.7 Results file

The results file is created during the import operation and saved to the results directory with the suffix -result. If the file already exists, the name is suffixed with -0002, -0003 and so forth.

Example of a results file

```xml
<xml version="1.0" encoding="utf-8"/>
<results appname="..." appversion="..." cancelonerror="false" xmlns="http://www.werma-win.com/xml/1.0/import/results">
    <result timestamp="2018-01-17T11:08:31.2922173+01:00" type="file" success="false">
        <exception type="..." message="..."/>
    </result>
    <result rootid="..." timestamp="2018-01-17T11:08:31.2922173+01:00" type="order" success="false">
        <!-- If available, all ID attributes are transferred in the results file -->
        <orderref refid="4711" orderid="2"/>
        <exception type="..." message="..."/>
    </result>
    <result rootid="..." timestamp="2018-01-17T11:08:31.2922173+01:00" type="order" success="true">
        <orderref refid="4711" orderid="2"/>
    </result>
    <!-- Process (for example, Start job) was successfully executed -->
    <result rootid="..." timestamp="2018-01-17T11:08:31.2922173+01:00" type="action" success="true"/>
    <!-- Process (for example, Start job) was not successfully executed -->
    <result rootid="..." timestamp="2018-01-17T11:08:31.2922173+01:00" type="action" success="false">
        <exception type="..." message="..."/>
    </result>
</results>
```

4.1.3 Interface status

The Interface status area displays information about the current state of the XML interface as well as imports and exports currently in progress.

Errors are also logged in the Windows Event Viewer and in the WERMA-WIN error log.
4.2 WINtoApplication

The WINtoApplication allows you to transmit the statuses of a signal tower to an external application and specifically further process them in this application. This application can be set up individually for each user.

The application data is stored, user-related, locally and not in the WERMA-WIN database. The settings of the WINtoApplication can be exported and imported for use on another PC or with another user.

The WINtoApplication only operates with an active user login. A user must be continuously logged in.

1. If the Settings window is not yet open, click on Settings in the toolbar.
2. Click on Start WinToApplication in the Status transmission tab. → The WINtoApplication task overview window appears.

The WINtoApplication task overview window shows an overview and the state of all available jobs.

<table>
<thead>
<tr>
<th>State</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔</td>
<td>The job has been successfully performed.</td>
</tr>
<tr>
<td>✗</td>
<td>There was an error the last time the job was performed. The History shows error details.</td>
</tr>
<tr>
<td>🔄</td>
<td>The job is running.</td>
</tr>
</tbody>
</table>
Clicking on **Refresh** updates the job overview.

The symbol in the system tray can be used to enable and disable jobs and complete WINtoApplication.

## 4.2.1 Adding a job

1. Click on **Add**.
   - The **WINtoApplication task configuration** window appears.

2. Enter the name of the job in the **Description** field.
3. Enter an additional description of the job in the **Comment** field, if necessary.
4. Select **Enabled** if the job is to be immediately enabled once it has been created.
5. Click on **Next**.
   - The window to input the application settings appears.
6. Click on ... in the Application field to select the external application.

7. In the Parameters field, enter the Parameters which are to be transmitted to the external application.

8. Enable The application cannot be started multiple times simultaneously, if required, to prevent the external application from being started several times simultaneously.

   By enabling The application cannot be started multiple times simultaneously, the program waits until the external application has ended. The external application is then called up again.

   Disable The application cannot be started multiple times simultaneously if applications expect a multiple start.

9. Click on Next.
   → The window to select the WIN slave appears.
10. From the list of WIN slave, select WIN slave the status changes of which are to be transmitted.

11. In the Change of tier state area, select for which tiers the status changes are to be transmitted.

12. Enter a Time delay for each tier if necessary.

   The status change is only transmitted if the new status is unchanged during the defined Time delay. No status change is transmitted if the status has changed again within the Time delay.

13. In the Change of job state area, select at which job progression or at which quantity the status change is to be transmitted.

14. Enable Transmit new counter values immediately if every changed counter status is to be transmitted.

   The Change of job state area is only available if a WIN slave control is selected.

15. Click on Next.
    → The window in which to create an Autostart shortcut appears.
16. Enable **Start WINtoApplication at windows startup** if WINtoApplication is to be automatically started when the PC is started or after user login.

17. Click on **OK** to save the job.

### 4.2.1.1 Placeholders/Parameters

The following placeholders/parameters are available:

<table>
<thead>
<tr>
<th>Placeholders/Parameters</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>%slaveid%</td>
<td>ID of the WIN slave</td>
</tr>
<tr>
<td>%name%</td>
<td>Description of the WIN slave</td>
</tr>
<tr>
<td>%time%</td>
<td>Date and time of status transmission</td>
</tr>
<tr>
<td>%reason%</td>
<td>Reason for status transmission</td>
</tr>
<tr>
<td>%state1%</td>
<td>Status of tier 1</td>
</tr>
<tr>
<td>%state2%</td>
<td>Status of tier 2</td>
</tr>
<tr>
<td>%state3%</td>
<td>Status of tier 3</td>
</tr>
<tr>
<td>%state4%</td>
<td>Status of tier 4</td>
</tr>
<tr>
<td>%statename1%</td>
<td>Description of tier 1</td>
</tr>
<tr>
<td>%statename2%</td>
<td>Description of tier 2</td>
</tr>
<tr>
<td>%statename3%</td>
<td>Description of tier 3</td>
</tr>
<tr>
<td>%statename4%</td>
<td>Description of tier 4</td>
</tr>
<tr>
<td>%counter%</td>
<td>Counter status of the job</td>
</tr>
</tbody>
</table>
### Placeholders/Parameters

<table>
<thead>
<tr>
<th>Placeholders/Parameters</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>%order-id%</td>
<td>Job ID</td>
</tr>
<tr>
<td>%order-number%</td>
<td>Job number</td>
</tr>
<tr>
<td>%order-description%</td>
<td>Description of job</td>
</tr>
<tr>
<td>%order-total%</td>
<td>Total amount of job</td>
</tr>
<tr>
<td>%order-progression%</td>
<td>Job progression</td>
</tr>
</tbody>
</table>

ℹ️ All placeholders/parameters start and end with the character `%.`

### 4.2.2 Editing a job

1. Select the required job in the job overview.
2. Click on Edit.
   -> The **WINtoApplication task configuration** window appears.
3. Enter the name of the job in the **Description** field.
4. Enter an additional description of the job in the **Comment** field, if necessary.
5. Select **Enabled** if the job is to be immediately enabled once it has been created.
6. Click on **Next**.
→ The window to input the application settings appears.

7. Click on ... in the Application field to select the external application.

8. In the Parameters field, enter the Parameters which are to be transmitted to the external application.

9. Enable The application cannot be started multiple times simultaneously, if required, to prevent the external application from being started several times simultaneously.

   By enabling The application cannot be started multiple times simultaneously, the program waits until the external application has ended. The external application is then called up again.

   Disable The application cannot be started multiple times simultaneously if applications expect a multiple start.

10. Click on Next.
    → The window to select the WIN slave appears.
11. Select WIN slave, the status changes of which are to be transmitted, from the list of WIN slave.

12. In the Change of tier state area, select for which tiers the status changes are to be transmitted.

13. Enter a Time delay for each tier if necessary.

   The status change is only transmitted if the new status is unchanged during the defined Time delay. No status change is transmitted if the status has changed again within the Time delay.

14. In the Change of job state area, select at which job progression or at which quantity the status change is to be transmitted.

15. Enable Transmit new counter values immediately if every changed counter status is to be transmitted.

   The Change of job state area is only available if a WIN slave control is selected.

16. Click on Next.
    ➔ The window in which to create an Autostart shortcut appears.
17. Enable **Start WINtoApplication at windows startup** if WINtoApplication is to be automatically started when the PC is started or after user login.

18. Click on **OK** to save the job.

### 4.2.2.1 Placeholders/Parameters

The following placeholders/parameters are available:

<table>
<thead>
<tr>
<th>Placeholders/Parameters</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>%slaveid%</td>
<td>ID of the WIN slave</td>
</tr>
<tr>
<td>%name%</td>
<td>Description of the WIN slave</td>
</tr>
<tr>
<td>%time%</td>
<td>Date and time of status transmission</td>
</tr>
<tr>
<td>%reason%</td>
<td>Reason for status transmission</td>
</tr>
<tr>
<td>%state1%</td>
<td>Status of tier 1</td>
</tr>
<tr>
<td>%state2%</td>
<td>Status of tier 2</td>
</tr>
<tr>
<td>%state3%</td>
<td>Status of tier 3</td>
</tr>
<tr>
<td>%state4%</td>
<td>Status of tier 4</td>
</tr>
<tr>
<td>%statename1%</td>
<td>Description of tier 1</td>
</tr>
<tr>
<td>%statename2%</td>
<td>Description of tier 2</td>
</tr>
<tr>
<td>%statename3%</td>
<td>Description of tier 3</td>
</tr>
<tr>
<td>%statename4%</td>
<td>Description of tier 4</td>
</tr>
<tr>
<td>%counter%</td>
<td>Counter status of the job</td>
</tr>
<tr>
<td>Placeholders/Parameters</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>%order-id%</td>
<td>Job ID</td>
</tr>
<tr>
<td>%order-number%</td>
<td>Job number</td>
</tr>
<tr>
<td>%order-description%</td>
<td>Description of job</td>
</tr>
<tr>
<td>%order-total%</td>
<td>Total amount of job</td>
</tr>
<tr>
<td>%order-progression%</td>
<td>Job progression</td>
</tr>
</tbody>
</table>

All placeholders/parameters start and end with the character %.

### 4.2.3 Duplicating a job

1. Select the required job in the job overview.
2. Click on Duplicate. → The WINtoApplication task configuration window appears.
3. Enter the name of the job in the Description field.
4. Enter an additional description of the job in the Comment field, if necessary.
5. Select Enabled if the job is to be immediately enabled once it has been created.
6. Click on Next.
The window to input the application settings appears.

7. Click on ... in the **Application** field to select the external application.

8. In the **Parameters** field, enter the Parameters which are to be transmitted to the external application.

9. Enable **The application cannot be started multiple times simultaneously**, if required, to prevent the external application from being started several times simultaneously.

   By enabling **The application cannot be started multiple times simultaneously**, the program waits until the external application has ended. The external application is then called up again.

   Disable **The application cannot be started multiple times simultaneously** if applications expect a multiple start.

10. Click on **Next**.
    → The window to select the WIN slave appears.
11. Select WIN slave, the status changes of which are to be transmitted, from the list of WIN slave.

12. In the **Change of tier state** area, select for which tiers the status changes are to be transmitted.

13. Enter a **Time delay** for each tier if necessary.

   - The status change is only transmitted if the new status is unchanged during the defined **Time delay**. No status change is transmitted if the status has changed again within the **Time delay**.

14. In the **Change of job state** area, select at which job progression or at which quantity the status change is to be transmitted.

15. Enable **Transmit new counter values immediately** if every changed counter status is to be transmitted.

   - The **Change of job state** area is only available if a WIN slave control is selected.

16. Click on **Next**.
   - The window in which to create an Autostart shortcut appears.
17. Enable **Start WINtoApplication at windows startup** if WINtoApplication is to be automatically started when the PC is started or after user login.

18. Click on **OK** to save the job.

### 4.2.3.1 Placeholders/Parameters

The following placeholders/parameters are available:

<table>
<thead>
<tr>
<th>Placeholders/Parameters</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>%slaveid%</td>
<td>ID of the WIN slave</td>
</tr>
<tr>
<td>%name%</td>
<td>Description of the WIN slave</td>
</tr>
<tr>
<td>%time%</td>
<td>Date and time of status transmission</td>
</tr>
<tr>
<td>%reason%</td>
<td>Reason for status transmission</td>
</tr>
<tr>
<td>%state1%</td>
<td>Status of tier 1</td>
</tr>
<tr>
<td>%state2%</td>
<td>Status of tier 2</td>
</tr>
<tr>
<td>%state3%</td>
<td>Status of tier 3</td>
</tr>
<tr>
<td>%state4%</td>
<td>Status of tier 4</td>
</tr>
<tr>
<td>%statename1%</td>
<td>Description of tier 1</td>
</tr>
<tr>
<td>%statename2%</td>
<td>Description of tier 2</td>
</tr>
<tr>
<td>%statename3%</td>
<td>Description of tier 3</td>
</tr>
<tr>
<td>%statename4%</td>
<td>Description of tier 4</td>
</tr>
<tr>
<td>%counter%</td>
<td>Counter status of the job</td>
</tr>
</tbody>
</table>
### 4.2.4 Enabling or disabling individual jobs

1. Select the required job in the job overview and enable or disable the checkbox in the enabled column.

![Image of job overview](image)

   - The statuses will continue to be monitored if a job is disabled. Status transmission to the external application is stopped.

### 4.2.5 Enabling or disabling all jobs

1. Right-click on the WIntoApplication symbol in the information section.

   ![Image of right-click](image)

2. Select **Enable** or **Disable** in the menu.

   - The statuses will continue to be monitored if the jobs are disabled. Status transmission to the external application is stopped.

---

**Table: Placeholders/Parameters and Description**

<table>
<thead>
<tr>
<th>Placeholders/Parameters</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>%order-id%</td>
<td>Job ID</td>
</tr>
<tr>
<td>%order-number%</td>
<td>Job number</td>
</tr>
<tr>
<td>%order-description%</td>
<td>Description of job</td>
</tr>
<tr>
<td>%order-total%</td>
<td>Total amount of job</td>
</tr>
<tr>
<td>%order-progression%</td>
<td>Job progression</td>
</tr>
</tbody>
</table>

- All placeholders/parameters start and end with the character `%`. 
4.2.6 Deleting jobs

1. Select the required job in the job overview.
2. Click Delete.
3. Confirm the prompt with Yes.

4.2.7 Exporting jobs

An export can be created to use the created jobs on another PC or for another user.

1. Click on Export in the Tools menu.
   → The Export task configuration window appears.

2. Click on ... in the Export to field.
3. Select the filename and storage location for the export file.
4. Click on Save.
5. Click on OK.

4.2.8 Importing jobs

1. Click on Import in the Tools menu.
   → The Import task configuration window appears.

2. Enable Delete all existing tasks before the import is activated if all existing jobs are to be deleted before the import.
3. Click on ... in the Import of field and select the import file.
4. Confirm the prompt with Yes.
4.2.9 History

A history log is automatically created to understand previous processes better and identify errors. This indicates which parameters have been transmitted to which external application.

To display the history log of a job:
1. Hover your cursor over the State column to select the required job in the job overview.

4.2.10 Settings

The processing of all jobs can be started and a startup shortcut created for the WINtoApplication in Settings.

1. Click on Settings in the Tools menu.
   → The Settings window appears.

2. Enable Start task processing to start the processing of all tasks.
3. Enable Start WINtoApplication at windows startup if WINtoApplication is to be automatically started when the PC is started or after user login.

4. Click on OK to save the job.

4.2.11 Exiting WINtoApplication

To move WINtoApplication into the system tray:

1. Click on Close overview in the File menu or close the WINtoApplication job overview by clicking on .

To fully exit the WINtoApplication and the execution of all jobs:

1. Right-click on the WINtoApplication symbol in the information section.

2. Select Exit in the pop-up menu.
3. Confirm the prompt with Yes.
4.3 WERMA-WIN CLI Tool

The WERMA-WIN CLI Tool (command-line interface tool) makes it possible to automate WIN slave control with different commands using an external application.

To call up the WERMA-WIN CLI tool:

1. Open the command line.

2. Enter the path for WERMA-WIN in the command line (e.g. cd C:\Program Files (x86)\WERMA-WIN-4).

The following functions are available:

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
<th>Command line entry/example</th>
</tr>
</thead>
<tbody>
<tr>
<td>/help</td>
<td>Shows all possible functions.</td>
<td>WIN-CLI.exe /help</td>
</tr>
<tr>
<td>/server</td>
<td>Adapts the WERMA-WIN server's port and server. The default setting is the server setting of WERMA-WIN.</td>
<td>/server &lt;server&gt;[:&lt;port&gt;] Example: WIN-CLI.exe /server Winserver01:10710</td>
</tr>
<tr>
<td>Function</td>
<td>Description</td>
<td>Command line entry/example</td>
</tr>
<tr>
<td>---------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>/switchcontrol</td>
<td>Controls the WIN slave control.</td>
<td>/switchcontrol &lt;slave&gt; &lt;tier&gt; &lt;state&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&lt;slave&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;id:&lt;slave-id&gt;&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;macid:&lt;slave-macid&gt;&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;name:&lt;slave-name&gt;&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&lt;tier&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1: Tier1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2: Tier2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3: Tier3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4: Tier4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&lt;state&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0: Off</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1: On</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2: Blinking</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Example:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>On WIN-CLI.exe /switchcontrol &quot;id:7&quot; 2 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Blinking WIN-CLI.exe /switchcontrol &quot;name:machine1&quot; 2 - 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Off WIN-CLI.exe /switchcontrol &quot;macid:03162D&quot; 2 0</td>
</tr>
<tr>
<td>/export-slaves</td>
<td>Create a CSV file with all WIN slave from the WERMA-WIN database in the selected &lt;file&gt; location.</td>
<td>/export-slaves &lt;file&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Example:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WIN-CLI.exe /export-slaves &quot;C:\test.csv&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Exit Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Command successfully executed</td>
</tr>
<tr>
<td>1</td>
<td>no command is executed, help message displayed</td>
</tr>
<tr>
<td>-1</td>
<td>an exception occurred, see command line output</td>
</tr>
</tbody>
</table>
# 5 Fault diagnostics

Possible errors and the current status of the WERMA-WIN devices are displayed by the respective LEDs.

## 5.1 WIN slave, WIN slave performance, WIN slave control

<table>
<thead>
<tr>
<th>LED</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>Radio connection established to the WIN master.</td>
</tr>
<tr>
<td>Red</td>
<td>No radio connection possible to the WIN master.</td>
</tr>
</tbody>
</table>

## 5.2 WIN slave control

The blue state LEDs shows the status of the outputs.

---

Version: 5.1 - 11/2020
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tier 4 output</td>
</tr>
<tr>
<td>2</td>
<td>Tier 3 output</td>
</tr>
<tr>
<td>3</td>
<td>Tier 2 output</td>
</tr>
<tr>
<td>4</td>
<td>Tier 1 output</td>
</tr>
</tbody>
</table>

**LED Description**

- **On**: Output was switched manually or by a switching rule.
- **Off**: Output was not switched.

---

The blue state LEDs only light up if **Activate additional pins 2 to 5** option was selected during configuration of the switching behaviour of the WIN slave control.

### 5.3 WIN master

**LED Description**

- **Green**: Radio connection established to the WIN slave.
- **Red**: No radio connection possible to the WIN slave.
### 5.4 WIN ethernet master

<table>
<thead>
<tr>
<th>LED Ethernet connection</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Green</strong></td>
<td></td>
</tr>
<tr>
<td>On</td>
<td>Connection established to the network.</td>
</tr>
<tr>
<td>Off</td>
<td>No connection possible to the network.</td>
</tr>
<tr>
<td>Blinking</td>
<td>Network activity</td>
</tr>
<tr>
<td><strong>Yellow</strong></td>
<td></td>
</tr>
<tr>
<td>On</td>
<td>Connection established to WERMA-WIN.</td>
</tr>
<tr>
<td>Off</td>
<td>No connection established to WERMA-WIN.</td>
</tr>
</tbody>
</table>
6 Software update

As soon as a software update is available, it can be downloaded and installed from the WERMA homepage.

1. Click Software update in the toolbar.
   → The Download area on the WERMA homepage appears.

2. Download the update file and install on the PC.

---

If several workplaces are accessing a common WERMA-WIN database, you first need to install the software update on the PC with the WERMA-WIN database (server PC). An appropriate message appears if the installation is first started on a client PC.

The software update must be run on all PCs connected to the common WERMA-WIN database.
# 7 System requirements

The system requirements differ for the server PC and client PCs.

<table>
<thead>
<tr>
<th>Installed software components</th>
<th>Server PC</th>
<th>Client PC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft SQL server</td>
<td>WERMA-WIN</td>
<td>WERMA-WIN</td>
</tr>
<tr>
<td>WERMA-WIN database</td>
<td>Network connection to Microsoft SQL server with the WERMA-WIN database</td>
<td></td>
</tr>
<tr>
<td>Device driver for hardware</td>
<td>Device driver for hardware</td>
<td></td>
</tr>
<tr>
<td>Processor</td>
<td>Pentium III compatible processor or higher</td>
<td>Dual Core processor is recommended</td>
</tr>
<tr>
<td>Minimum RAM</td>
<td>2 GB</td>
<td>1 GB</td>
</tr>
<tr>
<td>Free hard disk space (recommended)</td>
<td>8 GB</td>
<td>8 GB</td>
</tr>
<tr>
<td>USB port</td>
<td>Required for the hardware configuration.</td>
<td>The configuration can also be used on the Client PC.</td>
</tr>
<tr>
<td>Screen resolution</td>
<td>At least: 1280 x 1024</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recommended: 1920 x 1080 or higher</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Scaling of font size (DPI) 100% (96 DPI)</td>
<td></td>
</tr>
<tr>
<td>Microsoft .NET Framework 4.5.2</td>
<td>Automatically installed when installing WERMA-WIN.</td>
<td></td>
</tr>
<tr>
<td>Supported operating systems</td>
<td>Windows 8</td>
<td>Windows 8.1</td>
</tr>
<tr>
<td></td>
<td>Windows Server 2008 R2 SP1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Windows Server 2012</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Windows Server 2012 R2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Windows 10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Windows Server 2016</td>
<td></td>
</tr>
<tr>
<td>Supported SQL server</td>
<td>Microsoft SQL Server 2008 SP4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Microsoft SQL Server 2008 R2 SP3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Microsoft SQL Server 2012 SP4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Microsoft SQL Server 2014 SP2 (recommended)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Microsoft SQL Server 2016 SP2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Microsoft SQL Server 2017</td>
<td></td>
</tr>
</tbody>
</table>

ℹ️ Unless otherwise specified, the 32-bit (x86) and 64-bit (x64) versions are supported.
Supported operating systems and SQL Server versions are only supported as long as Microsoft also supports them through the Microsoft Support Lifecycle.

The automatic installation of the database onto a domain controller is not supported. Manual installation is possible.

Installation of the Windows server core and nano server is not supported.

The Windows server role **Remote desktop services** is not supported on the server PC.

Only Microsoft SQL server editions Express, Workgroup, Standard, Enterprise and Data-center for Windows, as well as the supplied Microsoft SQL Server 2014 Express database are supported.

In each case, only the latest Microsoft Windows and Microsoft SQL server service packs are supported.

Microsoft Server 2019 and Microsoft SQL Server 2019 have not been tested in all configurations. The tests to date have been successful.

---

### 7.1 Network stability and security

WERMA recommends that you only operate WERMA-WIN in a reliable LAN environment (TCP/IP network). The function or performance of WERMA-WIN could be impaired in an unstable or insecure network.
8 Keyboard shortcuts

Keyboard shortcuts let you work more quickly with WERMA-WIN. You can select from general keyboard shortcuts and shortcuts that apply to the specific module.

8.1 Windows standard

<table>
<thead>
<tr>
<th>Keyboard shortcut</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>Display Help.</td>
</tr>
<tr>
<td>F5</td>
<td>Refresh active window.</td>
</tr>
<tr>
<td>F10</td>
<td>Enable menu bar.</td>
</tr>
<tr>
<td>F11</td>
<td>Maximise active window.</td>
</tr>
<tr>
<td>CTRL + F1</td>
<td>Minimise menu bar.</td>
</tr>
<tr>
<td>CTRL + F4</td>
<td>Close active document.</td>
</tr>
<tr>
<td>CTRL + A</td>
<td>Select all items.</td>
</tr>
<tr>
<td>CTRL + C</td>
<td>Copy selected item.</td>
</tr>
<tr>
<td>CTRL + D</td>
<td>Delete selected item.</td>
</tr>
<tr>
<td>CTRL + N</td>
<td>Open new window.</td>
</tr>
<tr>
<td>CTRL + O</td>
<td>Open document / file.</td>
</tr>
<tr>
<td>CTRL + P</td>
<td>Print document.</td>
</tr>
<tr>
<td>CTRL + V</td>
<td>Paste selected item.</td>
</tr>
<tr>
<td>CTRL + W</td>
<td>Close current window.</td>
</tr>
<tr>
<td>CTRL + X</td>
<td>Cut selected item.</td>
</tr>
<tr>
<td>CTRL + Z</td>
<td>Undo action.</td>
</tr>
<tr>
<td>ALT + F4</td>
<td>Close active item or exit active app.</td>
</tr>
<tr>
<td>ALT + P</td>
<td>Display preview window.</td>
</tr>
<tr>
<td>DELETE</td>
<td>Delete selected item.</td>
</tr>
</tbody>
</table>

8.2 General

<table>
<thead>
<tr>
<th>Keyboard shortcut</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>Call up manual.</td>
</tr>
<tr>
<td>F2</td>
<td>Call up contact page.</td>
</tr>
<tr>
<td>F3</td>
<td>Call up Information window.</td>
</tr>
<tr>
<td>CTRL + F4</td>
<td>Close active document.</td>
</tr>
<tr>
<td>CTRL + F6</td>
<td>Call up Control station main view.</td>
</tr>
<tr>
<td>CTRL + F7</td>
<td>Call up Productivity main view.</td>
</tr>
<tr>
<td>CTRL + F8</td>
<td>Call up Runtime main view.</td>
</tr>
<tr>
<td>CTRL + F9</td>
<td>Call up Job main view.</td>
</tr>
</tbody>
</table>
### 8.3 Control station

<table>
<thead>
<tr>
<th>Keyboard shortcut</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTRL + F10</td>
<td>Call up Control main view.</td>
</tr>
<tr>
<td>CTRL + F11</td>
<td>Call up Routing main view.</td>
</tr>
<tr>
<td>CTRL + F12</td>
<td>Call up Runtime module with WIN slave selection.</td>
</tr>
<tr>
<td>ALT + F1</td>
<td>Call up Job quick start window.</td>
</tr>
<tr>
<td>F1</td>
<td>Call up manual.</td>
</tr>
<tr>
<td>F2</td>
<td>Call up contact page.</td>
</tr>
<tr>
<td>F3</td>
<td>Call up Information window.</td>
</tr>
<tr>
<td>F8</td>
<td>Add WIN slave.</td>
</tr>
<tr>
<td>F9</td>
<td>Select background.</td>
</tr>
<tr>
<td>F11</td>
<td>Start full screen mode.</td>
</tr>
<tr>
<td>F12</td>
<td>Generate report.</td>
</tr>
<tr>
<td>CTRL + F4</td>
<td>Close active document.</td>
</tr>
<tr>
<td>ALT + F1</td>
<td>Call up Job quick start window.</td>
</tr>
<tr>
<td>ALT + F6</td>
<td>Call up Activation window.</td>
</tr>
<tr>
<td>ALT + F7</td>
<td>Call up Settings window.</td>
</tr>
<tr>
<td>ALT + F8</td>
<td>Search for software update.</td>
</tr>
<tr>
<td>ESC</td>
<td>Exit full screen mode.</td>
</tr>
</tbody>
</table>

### 8.4 Productivity

<table>
<thead>
<tr>
<th>Keyboard shortcut</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>Call up manual.</td>
</tr>
<tr>
<td>F2</td>
<td>Call up contact page.</td>
</tr>
<tr>
<td>F3</td>
<td>Call up Information window.</td>
</tr>
<tr>
<td>F7</td>
<td>Show combined productivity.</td>
</tr>
<tr>
<td>F8</td>
<td>Add WIN slave.</td>
</tr>
<tr>
<td>F9</td>
<td>Select background.</td>
</tr>
<tr>
<td>F11</td>
<td>Start full screen mode.</td>
</tr>
<tr>
<td>F12</td>
<td>Generate report.</td>
</tr>
<tr>
<td>CTRL + F4</td>
<td>Close active document.</td>
</tr>
<tr>
<td>ALT + F1</td>
<td>Call up Job quick start window.</td>
</tr>
<tr>
<td>ALT + F6</td>
<td>Call up Activation window.</td>
</tr>
<tr>
<td>ALT + F7</td>
<td>Call up Settings window.</td>
</tr>
<tr>
<td>ALT + F8</td>
<td>Search for software update.</td>
</tr>
<tr>
<td>ESC</td>
<td>Exit full screen mode.</td>
</tr>
</tbody>
</table>
## 8.5 Runtime

<table>
<thead>
<tr>
<th>Keyboard shortcut</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>Call up manual.</td>
</tr>
<tr>
<td>F2</td>
<td>Call up contact page.</td>
</tr>
<tr>
<td>F3</td>
<td>Call up Information window.</td>
</tr>
<tr>
<td>F7</td>
<td>Call up the <strong>Status</strong> view.</td>
</tr>
<tr>
<td>F8</td>
<td>Call up the <strong>Quantity</strong> view.</td>
</tr>
<tr>
<td>F9</td>
<td>Call up the <strong>Combined</strong> view.</td>
</tr>
<tr>
<td>F11</td>
<td>Start full screen mode.</td>
</tr>
<tr>
<td>F12</td>
<td>Generate report.</td>
</tr>
<tr>
<td>CTRL + F4</td>
<td>Close active document.</td>
</tr>
<tr>
<td>ALT + F1</td>
<td>Call up <strong>Job quick start</strong> window.</td>
</tr>
<tr>
<td>ALT + F6</td>
<td>Call up <strong>Activation</strong> window.</td>
</tr>
<tr>
<td>ALT + F7</td>
<td>Call up <strong>Settings</strong> window.</td>
</tr>
<tr>
<td>ALT + F8</td>
<td>Search for software update.</td>
</tr>
<tr>
<td>ESC</td>
<td>Exit full screen mode.</td>
</tr>
</tbody>
</table>

## 8.6 Job

<table>
<thead>
<tr>
<th>Keyboard shortcut</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>Call up manual.</td>
</tr>
<tr>
<td>F2</td>
<td>Call up contact page.</td>
</tr>
<tr>
<td>F3</td>
<td>Call up Information window.</td>
</tr>
<tr>
<td>F9</td>
<td>Show Auto jobs.</td>
</tr>
<tr>
<td>F12</td>
<td>Generate report.</td>
</tr>
<tr>
<td>CTRL + E</td>
<td>Edit job.</td>
</tr>
<tr>
<td>CTRL + I</td>
<td>Import job list.</td>
</tr>
<tr>
<td>CTRL + N</td>
<td>Enter job.</td>
</tr>
<tr>
<td>CTRL + Q</td>
<td>End job.</td>
</tr>
<tr>
<td>CTRL + R</td>
<td>Start job.</td>
</tr>
<tr>
<td>CTRL + F4</td>
<td>Close active document.</td>
</tr>
<tr>
<td>ALT + F1</td>
<td>Call up <strong>Job quick start</strong> window.</td>
</tr>
<tr>
<td>ALT + F2</td>
<td>Start with 1st piece</td>
</tr>
<tr>
<td>ALT + F3</td>
<td>Start with job input</td>
</tr>
<tr>
<td>ALT + F6</td>
<td>Call up <strong>Activation</strong> window.</td>
</tr>
<tr>
<td>ALT + F7</td>
<td>Call up <strong>Settings</strong> window.</td>
</tr>
<tr>
<td>ALT + F8</td>
<td>Search for software update.</td>
</tr>
<tr>
<td>ESC</td>
<td>Exit full screen mode.</td>
</tr>
<tr>
<td>DELETE</td>
<td>Delete job.</td>
</tr>
</tbody>
</table>
## 8.7 Control

<table>
<thead>
<tr>
<th>Keyboard shortcut</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>Call up manual.</td>
</tr>
<tr>
<td>F2</td>
<td>Call up contact page.</td>
</tr>
<tr>
<td>F3</td>
<td>Call up information window.</td>
</tr>
<tr>
<td>CTRL + F4</td>
<td>Close active document.</td>
</tr>
<tr>
<td>CTRL + D</td>
<td>Duplicate rule.</td>
</tr>
<tr>
<td>CTRL + E</td>
<td>Edit rule.</td>
</tr>
<tr>
<td>CTRL + N</td>
<td>Create new rule (assistant).</td>
</tr>
<tr>
<td>CTRL + Q</td>
<td>Disable rule.</td>
</tr>
<tr>
<td>CTRL + R</td>
<td>Enable rule.</td>
</tr>
<tr>
<td>ALT + F1</td>
<td>Call up Job quick start window.</td>
</tr>
<tr>
<td>ALT + F6</td>
<td>Call up Activation window.</td>
</tr>
<tr>
<td>ALT + F7</td>
<td>Call up Settings window.</td>
</tr>
<tr>
<td>ALT + F8</td>
<td>Search for software update.</td>
</tr>
<tr>
<td>DELETE</td>
<td>Delete rule.</td>
</tr>
<tr>
<td>CTRL + Shift + NCTRL + N</td>
<td>Create new rule (Expert).</td>
</tr>
</tbody>
</table>

## 8.8 Routing

<table>
<thead>
<tr>
<th>Keyboard shortcut</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>Call up manual.</td>
</tr>
<tr>
<td>F2</td>
<td>Call up contact page.</td>
</tr>
<tr>
<td>F3</td>
<td>Call up Information window.</td>
</tr>
<tr>
<td>F12</td>
<td>Call up the Connection status window.</td>
</tr>
<tr>
<td>CTRL + F4</td>
<td>Close active document.</td>
</tr>
<tr>
<td>ALT + F1</td>
<td>Call up Job quick start window.</td>
</tr>
<tr>
<td>ALT + F6</td>
<td>Call up Activation window.</td>
</tr>
<tr>
<td>ALT + F7</td>
<td>Call up Settings window.</td>
</tr>
<tr>
<td>ALT + F8</td>
<td>Search for software update.</td>
</tr>
</tbody>
</table>
9 FAQ – Frequently Asked Questions

On which frequency band does the WIN system run?
WIN runs in the frequency band 868.0 – 868.6 MHz. Short-range radio system has no effect on existing Wi-Fi or Bluetooth networks.

Can WIN be run on different radio channels?
Yes, you can choose from four radio channels. You should only run one WIN master per channel. The channels have the following frequencies:

<table>
<thead>
<tr>
<th>Channel</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>868.15 MHz</td>
</tr>
<tr>
<td>2</td>
<td>868.25 MHz</td>
</tr>
<tr>
<td>3</td>
<td>868.35 MHz</td>
</tr>
<tr>
<td>4</td>
<td>868.45 MHz</td>
</tr>
</tbody>
</table>

Why are different radio channels needed? When should the radio channel be changed?
If more than one WIN master is run on a channel, it can cause transmission problems between the systems. This can be seen by the frequency connection errors. In this case, run the WIN master on different radio channels.

How can I increase the range?
Every WIN master possesses a repeater function, which can be used to increase the range between the WIN master and the WIN slave. Every WIN slave can thereby establish a connection to the WIN master using a maximum of 2 WIN slave (repeaters).

Is the radio transmission encrypted?
The WIN system is equipped with several protection mechanisms, which prevent the radio transmission being intercepted. However, unrestricted security against interception cannot be guaranteed. In addition, no confidential data from the WIN system is transmitted wirelessly.

How often does the WIN slave transmit the signal status to the WIN master?
If the status of the signal tower changes, the WIN slave sends this new signal status to the WIN master within a response time of up to 5 seconds. If the signal status does not change, the WIN slave transmits the signal status every 15 seconds to the WIN master.

Why can the WIN slave not establish a connection to the WIN master?
Check the following points:
– The WIN master (USB) must be connected to the PC by USB. The red or green LED must light up.
– The WIN slave must be connected to a power supply. The red or green LED must light up.
– The WIN slave must be configured.
– The radio connection must not be disrupted.
– If the WIN master has been configured on another radio channel, the assigned WIN masters have to be reconfigured on the WIN master.

There are frequent connection errors to the WIN slaves. What can be done?
– Data will only be logged while WERMA-WIN is running. WERMA-WIN must be running in the monitoring period.
– The connection quality can be checked in the **Routing module**. The use of additional WIN slaves as repeaters is recommended if connection lines appear red. A WIN slave must be positioned at the critical point for this purpose.
– There needs to be a permanent 24 V power supply connected to Pin 5 on every WIN slave.

**Why does the PC not recognise the WIN master?**
– WERMA-WIN must be installed and started on the PC.
– Disconnect the USB connection to the WIN slave and reconnect it.
– **Manually install the driver.**
– The Windows Service **WERMA WIN 4 Connector Service** must have started.

**Why can WERMA-WIN not be installed?**
Administrator rights are needed to install WERMA-WIN.

**How many WIN slaves can be monitored by one WIN master?**
Up to 50 WIN slaves can be monitored.

**What happens if more than 50 WIN slaves are connected?**
If more than 50 WIN slaves are connected, this can lead to transmission errors between the WIN slaves.

**How many signal elements can be monitored per WIN slave?**
Up to 4 elements can be monitored per WIN slave. Up to 8 statuses can be monitored using blink recognition.

**How many signal elements can be monitored per WIN slave performance?**
Up to 3 elements can be monitored per WIN slave performance. Up to 6 statuses can be monitored using blink recognition.

A tier is essential for the counter input.
You can monitor up to 2 elements or a maximum of 4 statuses if a tier is also fitted with the job input.

**How many strokes per minute (e.g. with punching) can WERMA-WIN count or record?**
WERMA-WIN can count up to a maximum of 600 strokes per minute. The timer of the machine or control must be increased (> 100 ms) to detect the correct quantity of the machine.

**Why does the WIN master light up red?**
The WIN master is ready for operation but is not connected to a WIN slave.

**Why is the red state LED on the WIN slave lit?**
The WIN slave is ready for operation but is not connected to a WIN master.

**What is the maximum permissible USB cable length between the WIN master and PC?**
The cable length should not exceed 3 metres. The maximum cable length can be increased using a USB hub.

**Can the collected data be further processed?**
Yes, all data is stored in a Microsoft SQL server database. The data can be read (Microsoft Excel, Microsoft Access ...). Avoid changing the database to avoid loss of data.

**What steps need to be taken with time changes?**
A time change can lead to a loss of data. If the system time is synchronised several times (e.g. automatically with a server), then we would recommend doing so outside the monitoring period.

**Can a WIN slave performance be configured to have the same configuration as a WIN slave?**
No, a WIN slave performance always needs one tier allocated to the counter input.

**What must be considered when installing WERMA-WIN?**
The system requirements need to be observed. Administrator rights are needed to install WERMA-WIN.

**How fast can a WIN slave performance count on the tier with counter input?**
The counter pulse can be up to 10 Hz.

**Can blink recognition be set up for all tiers of the WIN slave performance?**
No, blink recognition cannot be selected for the tier with counter input or for the tier with job input.

**Is it possible to read job information from an ERP system into WERMA-WIN?**
Yes, you need to create a CSV file with the correct format for this. This can then be imported into WERMA-WIN.

**Are there any keyboard shortcut functions in the software?**
Yes, WERMA-WIN can be quickly operated using the keyboard with a number of different keyboard shortcuts.

**What must be observed when saving data to the WERMA-WIN database?**
The PC to which the WIN master is connected by a USB cable must be continuously in operation. The PC on which the WERMA-WIN database is installed must be in operation around the clock. The **WERMA WIN 4 Server Service** and the **WERMA WIN 4 Connector Service** must have been started.

**Why is the WERMA WIN 4 Connector Service needed?**
The service runs in the background when the PC (client and server) is running. The collected WERMA-WIN data from the WIN master is transmitted to the **WERMA WIN 4 Server Service** without WERMA-WIN being started and a user being logged in.

**What is the WERMA WIN 4 Server Service needed for?**
The service runs in the background when the PC (client and server) is running. The collected WERMA-WIN data from the WIN master is transmitted to the WERMA WIN 4 Server Service without WERMA-WIN being started and a user being logged in.

**Can energy-saving mode or hibernation mode be enabled on a PC with WERMA-WIN?**

WERMA recommends disabling energy-saving mode and hibernation state for the following uses:

- PC with the WERMA-WIN database
- PC with the WERMA WIN 4 Server Service
- PC with a connected WIN master (USB)

**Can the WIN ethernet master be operated over the internet?**

From a technical perspective, the WIN ethernet master can be operated over the internet.

In spite of basic security measures, we would nevertheless strongly recommend in this case providing additional security for the connection to the WIN ethernet master, for example via an encrypted VPN connection.